AN ASHTON-TATE SOFTWARE SUPPORT PUBLICATION

JUNE 1986

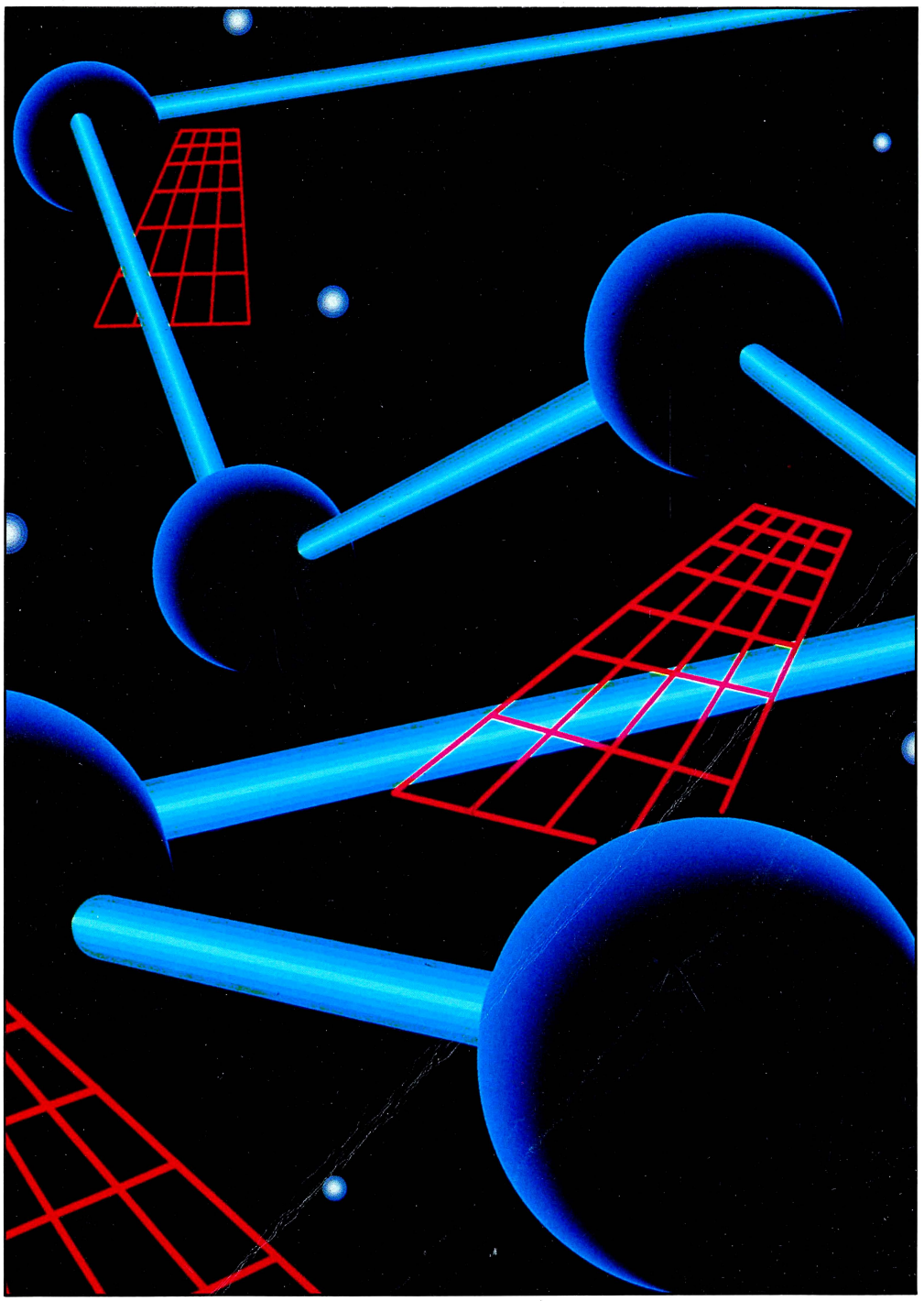
TechNotes

Installing dBASE III PLUS on Novell

LAN Usage Tips

Ashton-Tate SIG on CompuServe

Telecom-munications Primer—Part 3



JAN 16 1986

ASHTON·TATE™

TechNotes

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READ ME FIRST

by Laurie Miller

Ah, yes! The lazy month of June! Some of you are probably lying on the beaches of Cannes, ***TechNotes*** in hand, enjoying the beginnings of Summer, not a care in the world; while the hard-core programming types, like the techs here at the Ashton-Tate Software Support Center, are sitting in front of our computers, patiently answering over 1000 calls per day, most of which are related to running dBASE III PLUS on a network. That, my friends, is the stuff of which programmers are made!

It seems only natural, then, that this month's featured topic is networking. I give you Karen Robinson and David Howlett's tremendous feat: "Installing dBASE III PLUS on the Novell Network." This little beauty should answer any and all questions you ever had (or never wanted to ask) about installing and loading dBASE III PLUS in the Novell environment. Just as eagerly, I refer you to David Howlett's **Usage Tips**. There is a wealth of technical knowledge just oozing from these pages.

As if that weren't enough for the lazy month of June, Kent Irwin, Framework Editor and Project Supervisor for Telecommunications, offers part 3 of his "Telecommunications Primer." In this chapter, Kent discusses utilizing macros to automate your telecommunications sessions and compares Telecomm to Library macros. Another good article for those of you with modems and a subscription to CompuServe: "Introducing the Ashton-Tate CompuServe Forum," by Steve Silverwood. This fills you in on what Ashton-Tate's Forum (or SIG) on CompuServe is all about.

A special note of thanks goes to each and every one of you who has taken the time to fill out and return the ***TechNotes*** Reader Survey. One of the more common requests that have come from our readers seems to be that we focus more on concise, little technical "tidbits"—the nitty-gritty, as it were—and less on "tomes," as Christopher White so gingerly refers to them. So, in response to your feedback, last month we started a new monthly department called **On-Line Services**. As the name implies, **On-Line Services** presents some of the best of the tidbits for techies that come to us over the wire each month. Enjoy these and look for more of this type of technical material in future issues.

Next month look for new technical information on version 2.0.3 of the SUPERLoK copy protection system. These "SUPERLoK Notes" will elaborate upon some of the installation error messages and problems that Karen and David address in their article this month. This document will update information published in the "SUPERLoK Notes" that were published in the December 1985 issue of ***TechNotes***.

MultiMate Technical Support: Beginning with this issue, you will find the information on MultiMate products to be more technical. MultiMate supports many printers, including Hewlett-Packard (HP) printers. So, this month, the **MultiMate Technical Support** material highlights HP printers: their ThinkJet and LaserJet Printers. You will need the Character Width Tables (CWTs) for the LaserJet cartridges to do proportional spacing on the LaserJet.

If you are a MultiMate user and you would like to read about a particular technical issue in ***TechNotes***, please write to me and I will do my best to see that it gets covered in a future issue.

But wait. What's this? A photocopy of something of "interest" has just come across my desk (and, believe me, as the Editor-in-Chief of this fine publication, I see many "interesting" things cross my desk in a day). It seems to be poking fun at a set of terms found in a software license agreement; only this set of terms applies to readers of a magazine—not sure which one. In small print it reads: "YOU MAY NOT READ THIS MAGAZINE ON THE BEACH!" Whoever wrote these terms was obviously a programmer!

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If the reported anomaly can be reproduced by our technicians, it may be added to a future issue of ***TechNotes***.

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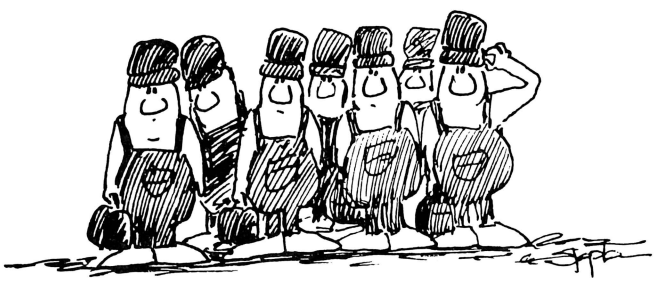
Installing dBASE III PLUS on the Novell Network

by Karen Robinson and David Howlett

Installing and running dBASE III PLUS on the Novell network is fairly straightforward, though problems can occur. Sometimes the problem is an error in the command syntax, a network error message, or a SUPERLoK copy-protection error message. This discussion offers solutions to errors that occur during installation and loading dBASE III PLUS in the Novell network environment.



Disk Configuration

Before we move into the particulars of installation, it is important to discuss the difference between the dBASE III PLUS package and the LAN Pack. Each dBASE III PLUS is complete and includes all the files necessary to run on a network. A single dBASE III PLUS package can be used to set up a file server and one workstation, or a single user on a stand-alone computer. If you wish to run under the network, use System Disk #1 to install the Administrator on the file server and Access on a workstation. In a single-user environment, use System Disks #1 and #2 instead of the Administrator disks to install the dBASE III PLUS files to the hard disk.

There is some confusion about what actually makes up the dBASE III PLUS package. In a network configuration, dBASE III PLUS is made up of the files installed from the Administrator Disks #1 and #2, and the Access disk (System Disk #1). In a single-user configuration, dBASE III PLUS is comprised of files installed from System Disk #1 and #2.

The LAN Pack contains three disks, each labeled "ACCESS DISK." You install ACCESS.COM from an Access disk to the local workstation hard disk. Since you have three Access disks, you can have three additional workstations. The LAN Packs do not contain Administrator disks, so are purchased in addition to and not instead of dBASE III PLUS.

Installing and Uninstalling on the Network

The following is a table showing which files are actually written to the file server and workstations during installation.

File Server Administrator Disk	Workstations Access Disk
DBA.EXE	ACCESS.COM
DBA.LD1	3 SUPERLoK support files:
DBA.OVL	CML0203.HCL
DBASE.MSG	VDF0203.VDW
HELP.DBA	DBASE.277
ASSIST.HLP	
PROTECT.EXE	

The attributes of the files installed on the file server must be changed to shareable read-only. On the Novell network, issue the following command line to accomplish this.

```
D>FLAG X:*.* sro
      ↑
      └──── Location of Administrator files.
```

The Administrator

The Administrator disks included with the dBASE III PLUS package are not copy protected. The installation procedure executed from System Disk #1 copies the files from the two Administrator disks to the file server and the uninstall procedure deletes them.

The most common error message users encounter when installing or uninstalling the Administrator disks is "Invalid drive specification." This appears when the spacing of parameters on the install and uninstall command lines is not correct. The correct syntax is:

```
A> INSTALL <drive>: DBA
                    ↑
                    └──── There must be a space here.
```

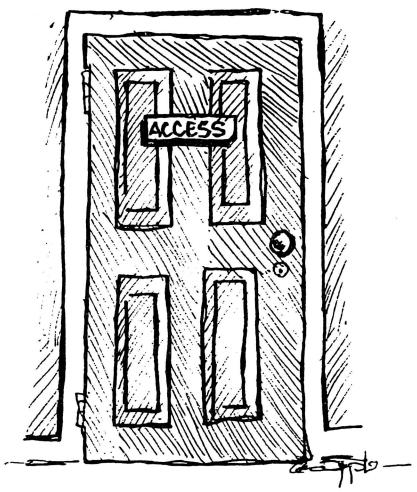
and

```
A> UNINSTAL <drive>: DBA
                     ↑
                     └──── Note the space here also.
```

When you uninstall the Administrator files, it is imperative that you change the file attributes back to read/write non-shareable. If they are not changed, the error message "Access denied" is returned and the files are not deleted.

The ACCESS

Access disks, unlike the Administrator disks, are copy protected with the SUPERLoK copy-protection scheme. For this reason, the number of possible error conditions increases. In this section, the problem areas are segmented by error message.



"Hard Disk Incompatible, Cannot Proceed (0104)"

The error message, "Hard disk incompatible, cannot proceed (104)," means that the format of the hard disk to install to is incompatible with the dBASE III PLUS copy protection. SUPERLoK only installs to PC/MS-DOS formatted disks. On the Novell network, this error message results when you attempt to install Access on the Novell file server. The reason this occurs is because the server's hard disk is formatted with Novell's own proprietary formatting scheme which is not compatible with the PC/MS-DOS disk format.

"Invalid drive specification"

The error message "Invalid drive specification" also appears when installing the Access disk and there isn't a space after the drive designator. The correct syntax is:

A> INSTALL <drive>: ACCESS
There *must* be a space here.

and

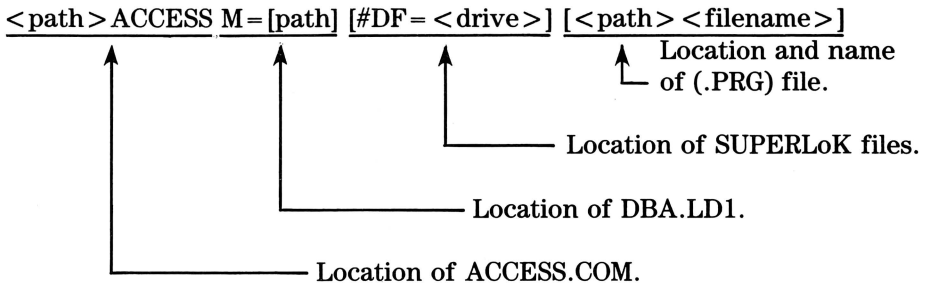
A> UNINSTAL <drive>: ACCESS
There *must* be a space here.

Loading dBASE III PLUS on the Network

Discussion

Once the Administrator is installed on the server and Access disks are installed on the workstations, the next step is to execute the ACCESS.COM correctly so that dBASE III PLUS loads successfully.

The syntax of the Access command line tells the system where to find ACCESS.COM, the Administrator files (DBA.LD1), your (.PRG) file to execute, and the SUPERLoK support files. Spacing is very important in the syntax of the ACCESS command line. A space must never follow the equal sign in the "M=" clause. If you put one there, the Administrator will not load. The generic syntax of Access command line is:

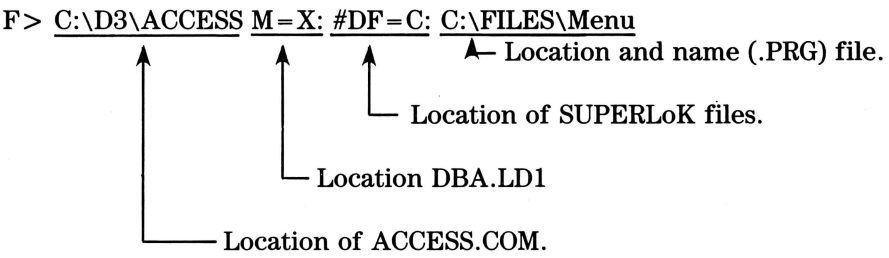


In accordance with the dBASE III PLUS documentation standards, [] indicates an optional parameter and < > indicates a necessary parameter.

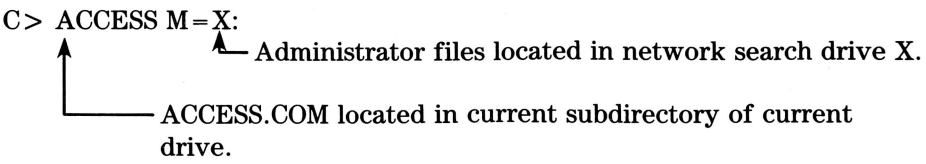
As an example, suppose the ACCESS.COM is installed on the workstation's hard disk (C:) in a subdirectory called D3; the program file Menu.PRG is in the subdirectory, D3FILES; and the Administrator files are on the network drive X:. The user is on the network drive F:. In a table view, the information looks like this:

Files	Location
ACCESS.COM	C:\D3
(.PRG)	C:\FILES
Administrator	X:
SUPERLoK	C:

The correct syntax to load this example is:



This example assumes the most complex use of the ACCESS command. The only parameter absolutely necessary is M=<drive>. A simpler example is to execute ACCESS.COM from the workstation in the subdirectory that contains ACCESS.COM. The command is:



"Load failed error 12"

The error message "Load failed error 12" appears when the SUPERLoK support files cannot be found. The SUPERLoK support files (CML0203.HCL and VDF0203.VDW) are always located in the root directory of the drive where ACCESS.COM is installed.

A typical situation is where the Administrator files are installed on the file server (drive X), ACCESS.COM is installed on the workstation (drive C), and the user executes ACCESS.COM from the file server (drive X). The command line syntax might be:

```
X> C:ACCESS M=X:
                ↑
                └── Location of Administrator files.
```

The optional parameter, #DF=<drive>, within the Access command line tells the system where to find the SUPERLoK support files. Remember, they are always located in the root directory of the drive where ACCESS.COM is installed. If the #DF=<drive> parameter is not included in the Access command line, the system looks for the SUPERLoK files in the root directory of the default drive. In this example, since the #DF= parameter is not used, SUPERLoK looks for its support files in the root directory of the default drive (X) even though the files are on drive C. The result is the "Load failed error 12" error message.

If you get this error message, use the following command syntax:

```
X> C:ACCESS M=X: #DF=C:
                    ↑
                    └── Location of SUPERLoK support files.
```

"Unauthorized login"

This error message appears when you attempt to use the same Access disk to log more than one user into the Administrator on the network. As each workstation logs in, a unique serial number is checked against an encrypted hidden file. If this serial number is already present, another workstation has already logged in with the same Access disk. If it is not present, then the serial number of the Access disk is added to the hidden encrypted file.

"dBASE cannot be found (30)"

The error message occurs when ACCESS.COM cannot locate DBA.LD1. This can occur for three reasons:

1. DBA.LD1 is not present in Administrator subdirectory.
2. DBA.LD1 is damaged.
3. DBA.LD1 is not flagged as shareable read-only.

If the file is not named correctly, rename it to DBA.LD1. If it is damaged then copy DBA.LD1 file from the Administrator disk #1 to the correct subdirectory. For either solution be sure you have changed the attributes of the file to shareable read-only.

The error message can also occur if the path specified in the Access command line is incorrect. For example, the Administrator is installed on drive X in a subdirectory named \ADMIN and you execute the following command.

```
A>ACCESS M=X:
           ↑
           └── Location of DBA.LD1.
```

The system will look for the file DBA.LD1 in the default subdirectory of drive X. If the default subdirectory is not set to \ADMIN, you will get the error message. The correct syntax for this example is:

```
A>ACCESS M=X:\ADMIN
           ↑
           └── No space here.
```

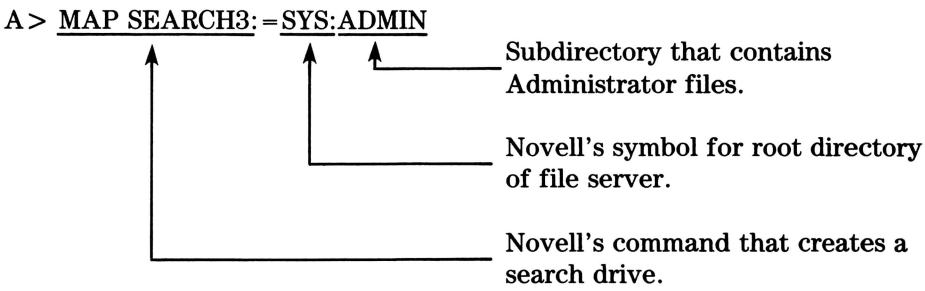
This error message also appears if there is a space after the "M=" parameter.

"Insert System Disk #2 and press ENTER, or press Ctrl-C to abort"

This error message indicates that the Administrator file, DBA.OVL cannot be found. It may be because the file has been deleted, damaged, renamed, or not shareable read-only.

The error message also appears if the Novell MAP command is not used to set up a search path to the logical drive where the Administrator files are installed. Every work station that needs to use the Administrator on the network must use the MAP command to set up the search path first.

An example is:



Refer to the Novell manuals for more information on how to use the MAP command.

"Unauthorized duplicate END RUN dBASE III"

This error occurs in three different situations.

1. If your CONFIG.DB file contains the command DEFAULT = <drive> and the drive is other than the current default. This problem appears only when the drive default is set in the CONFIG.DB file. It does not occur when the default is changed after entering dBASE III PLUS or if a program that contains SET DEFAULT TO is executed through CONFIG.DB.

   To work around this problem, create a command file that contains the command SET DEFAULT TO <drive> and then have CONFIG.DB execute that command file.

   For example:

```
* —-CONFIG.DB
COMMAND= DO Start
 .
 .
 etc.
```

```
* —-Start.PRG
SET DEFAULT TO <drive>
 .
 .
 etc.
```

2. The error message also appears when the parameter option for the automatic execution of a (.PRG) file starts with an "M" and precedes the "M=" parameter on the Access command line. The reason is that the "M" following the command ACCESS is interpreted as the M= parameter. The following command lines cause the error condition:

```
A> ACCESS Menu M=X:
      or
A> ACCESS M:\Startup M=X:
```

   However, this command line syntax does not:

```
A> ACCESS C:\Menu M=X:
```

To prevent this problem from occurring, always place the "M=" parameter immediately following the command ACCESS in the command line.

For instance:

```
A> ACCESS M=X: Menu
```

3. A third situation where this error message appears is when the Administrator files are not installed correctly or completely. Assuming the problem is not a result of any of the situations described above, uninstall and reinstall the Administrator disks.

Conclusion

We hope that you find the list of problems and solutions for installing the dBASE III PLUS Administrator and Access on the Novell's Advanced Netware Network useful. For a complete discussion of the SUPERLoK copy protection system and an exhaustive list of error messages, refer to SUPERLoK notes in the December 1985 issue of ***TechNotes*** beginning on page 58. This discussion is being updated and a revised set of notes will be published in next month's issue.

Introducing the Ashton-Tate CompuServe Forum

by Steve Silverwood

Last summer, the Ashton-Tate Software Support Center opened its on-line Forum on CompuServe to users of that service. The purpose of the Forum (also known as a SIG, or Special Interest Group) is to provide an alternate means for our customers to obtain product support. Through this medium, we can offer help with technical questions, programming tips, and better ways to use our products. The Forum is available 24 hours a day, seven days a week (subject to CompuServe downtime), and is offered at no cost to the user other than the minimal CompuServe connect charges.

Meet the Sysops

The Forum is staffed by three support technicians from the Software Support Center: Kent Irwin, Stephen Goodman, and myself. We spend a part of every working day maintaining the files on the Forum, answering messages, and generally making sure that everything goes smoothly.

Kent Irwin, the man in charge of the Forum, is also known as the Wizop, short for Wizard Sysop. Kent is responsible for maintaining the membership files for the Forum, and for general policy decisions regarding Forum operation and Framework material.

Stephen Goodman is in charge of the dBASE III section of the Forum. Stephen has spent a great deal of time experimenting in telecommunications, and also was a consultant specializing in dBASE II and III programming before joining Ashton-Tate.

My responsibilities are maintaining the dBASE II section of the Forum, and keeping the bulletins up to date (more on those later).

While each of us has our own areas of responsibility, we all share the job of answering questions that are posed by the various members of the Forum.

Support Services Available

The Forum consists of many parts, each of which performs an important service in providing you with information and support. These are the Support Library, Message Bases, Data Libraries, Bulletins, and the Conference channels.

In the Support Library we provide a system of VideoText "pages" that can be selected from menus. Each of these pages contains information about our products. Among the subjects discussed in these pages are:

1. Press Releases
2. Operating Hints
3. Programming Techniques
4. Product Anomalies and Workarounds
5. Support Services
6. Customer Services
7. Menu Map
8. What's New

Press releases are news bulletins fresh from Ashton-Tate public relations describing new products, updates and upgrades to our regular products, or other special programs that are made available. These are the same official statements that are released to newswire services. Some past news releases include the announcement of dBASE III PLUS and Framework II, our Authorized Training Center program, and the acquisition of Multimate International as a subsidiary of Ashton-Tate.

We also provide information about problems discovered with our products, usually with one or more methods of getting around the problem, if possible. Descriptions of special techniques appear in the Library, for such diverse tasks as converting calendar dates to Julian dates in dBASE II for date calculations, converting numbers to words for printing checks, and various other useful programming techniques. If we find that a particular question is frequently asked, either on the phones or in the Forum, then we post the details about the solution here as well. Much of the material in the Support Library comes from ***TechNotes***.

The information in the Support Library is updated on a weekly basis, in most cases, to make sure you have the latest information on a particular subject. There is a "What's New" category with listings of the latest information available, and where to find it in the Library. An on-line "map" of where the various menus lead is also provided for reference under the Menu Map option.

Message Bases

The Message Bases are the heart of the Forum. They are a kind of "town meeting" where the Forum members can ask questions of other members, or offer their assistance to someone in need. In fact, the purpose of the Message Bases is to provide a means of communicating directly with the Sysops and the other members of the Forum for assistance in using Ashton-Tate products.

Each Message Base is devoted to a particular product or subject. One area is supplied for each of our major product categories (dBASE II, dBASE III, MultiMate, RunTime, and Framework), plus three others (General, Looking for Help, and Open Season).

In the product areas, messages generally pertain directly to those products covered by that category. Questions about dBASE II and Friday! (a dBASE II application program) are found in the dBASE II section, while questions about Framework, Framework II, and add-on programs to these products are found in the Framework section.

In these sections we are able to help you with most anything about which you would normally talk to a support technician. Now, you might ask, "Why bother? Why not just call Software Support?" Good question! But think about this, you can call CompuServe with a local phone number in most cases, and, better yet, you might discover new programming ideas in the many answers you're likely to get! Not only do the Sysops answer questions, but a lot of the members have a great deal of experience in dBASE and Framework, and therefore can supply many insights into tricky programming problems.

In the other three areas, the messages tend to vary in their content. The General area is a catch-all section. If nobody's sure where an item belongs, this is where it goes. The Looking for Help area is mostly used by our newer members who are having problems using CompuServe or accessing files or messages in the Forum.

The Open Season section is an experiment. Sometimes a person will take exception to one of Ashton-Tate's policies, or just want to get into an on-line "brawl." This arena is provided for that purpose. You're liable to find just about *anything* going on in here! Any kind of messages are welcome here, as long as they relate to Ashton-Tate and/or its products, and are not offensive or libelous in language or meaning.

There *are* some questions that we, as technicians, just aren't able to answer in any message area. These mostly deal with upgrades or replacement disk orders, and are best handled by our Customer Service department at (213)329-9989. If we know the answer to the question, or can find out quickly, we'll do our best to help!

Data Libraries

One of the most popular uses of bulletin boards these days is to upload and download programs. There are a LOT of them out there for dBASE and Framework, and many of them were developed here at Ashton-Tate. We offer these files for downloading by our users in our Data Libraries, again at no additional charge.

Each of the Message Bases has a related Data Library (commonly known as a "DL"). For instance, Section 3 of the message area deals with Framework, so Data Library 3 has Framework files in it. As new driver files for Framework are developed, for example, we put them in the DL to make them available to you. You might also find programs that have been written in Framework to perform some special tasks, or just to make using Framework easier.

Many of the files available in the Data Libraries are supplied by Forum members. All the files that are available in the DLs are in the public domain, and may be used freely by anyone. A description file can be found in each Data Library to give you an idea of what kind of files to expect.

Bulletins

From time to time, an event of special significance will occur that we want to make sure everyone gets the word about. We do this through the Bulletins, of which there are several.

The Short Bulletin is the most frequently seen. It contains the latest news about what's going on at Ashton-Tate and on the Forum. If there's a new product or an update to an existing product, for example, the Short Bulletin will report it. (As mentioned earlier, further details on product announcements, press releases and such are still made available in the Support Library.)

The Regular Bulletin only appears the first time you enter the Forum. It contains information to help new Forum members find their way around the system.

The Conference Bulletin appears when you enter a conference, and contains a schedule of conference dates and topics, along with announcements of any special-subject conferences (more on conferences later).

These are the most frequently used bulletins on the system. A few others exist, but are not used very often.

Conferences

A Conference on CompuServe is much like talking on a CB radio. When a person is "talking," he or she can be "heard" by anyone else who is "tuned in" to the conference. As a matter of fact, CompuServe maintains a "CB Simulator" service on-line, and the Conference system is an offshoot of that service.

Every Thursday evening, at least one Sysop is available for direct conversation with whoever wants to join in. The subject matter is usually announced in advance, but the conference is kept pretty much like a regular conversation; anyone who wants to change the subject may ask to do so; and the subject can be changed assuming that everyone else agrees.

The Sysop is the mediator of the conference. His responsibility is to make sure that everyone gets a chance to have his or her say, and to keep the rest of the members from interrupting.

There are some simple protocols to observe during a conference. They are minimal, to preserve the sense of informality, but they also help to keep things flowing smoothly. To learn more about participating in conferences, we have provided a help file on that subject which can be downloaded from the General area Data Library under the name CONF.HLP.

Occasionally, we will schedule a special conference with a guest speaker who will field questions. We hope to have many interesting guests from within our organization drop in to the conferences and spend time with the Forum members.

How to Subscribe to CompuServe

Now that you know what sort of services are available and are anxious to participate, you will need to get a CompuServe account to access the system. There are two types of services available: the Consumer Information Service (CIS) and the Executive Information Service (EIS).

CIS subscribers pay only for the time they spend connected to the service, plus any surcharges for communications and for use of some "added-value" services. EIS customers have access to some special services on the system and pay a minimum service charge of $10 per month for this type of account.

CompuServe "Start-up Kits" for both types of accounts are available in a number of places. Many computer stores and software dealers carry the kits, and even a few of the mass-merchandising firms and national department store chains offer them. Each kit contains the necessary information to start an account and to begin using it right away. They also contain a small amount of free connect time for you to spend getting familiar with the services offered.

If you can't find a store in your area that carries these kits, you can contact CompuServe, and they will help you get started:

In the Continental U.S.: (800) 848-8199
In Ohio call: (614) 457-0802

or write to:

CompuServe Consumer Information Service
P.O. Box 20212
5000 Arlington Centre Blvd.
Columbus, OH 43220

In addition to these kits, Ashton-Tate includes in each package of Framework II an EIS Start-up kit with $15 of connect time credit.

Once you have an account on the system (either CIS or EIS), all you need to get started is a modem and a computer with some form of telecommunications software, such as MITE or Framework II.

That's it! You're ready to take advantage of the special services offered on-line by the Ashton-Tate Software Support Center. We hope that you will visit us on the Forum soon and take advantage of the wide range of support services we have available for you.

Telecommunications Primer-Part Three

by Kent Irwin

Since the beginning of the Industrial Revolution, ancient techniques of manual labor have been giving way to automated processes. The cotton gin helped revolutionize the burgeoning textile industry by performing a task that formerly required the manual dexterity of countless factory workers. The quantity and variety of such labor-saving devices has increased so dramatically that the average late-twentieth-century person doesn't stop to think how much simpler life is getting every day. In the last decade, robots and computers have swarmed into work environments and been assigned many of the tasks considered too dangerous or tedious for human workers. While the modern factory worker oversees a squad of assembly robots, the company accountant performs rigorous analysis of financial data using a desktop computer.

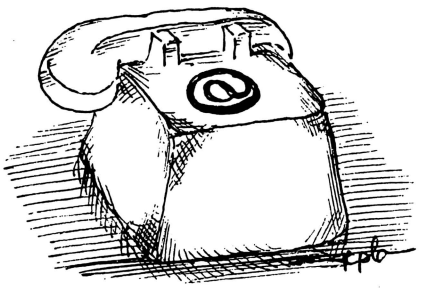
The ultimate result of automating human tasks is releasing people from drudgery and freeing them to pursue the creative tasks that only the human mind can do. The personal computer, as an extremely versatile tool, opens new dimensions for everyone. Framework II represents a prime example of a labor-saving computer program. Not only can it perform such basic tasks as word processing, charting, data management, and communications, but it can also help you automate the tasks you regularly perform on the Framework II desktop. In the area of telecommunications, where time is money, efficiency and automation are crucial to your success.

This article focuses on the use of macros to automate your telecommunications tasks. A macro is simply a string of characters representing keystrokes to be performed and functions to be executed. Framework II distinguishes between Telecomm macros and Library macros, but they do have many similarities. We shall discuss the advantages of using both macro types during a Telecomm session.

Automatic Logon Macros

Telecomm macros, like all Framework II macros, can perform any operation that you can perform from the keyboard. Frequently used key sequences, such as the steps to log on to a remote system, can be placed in a Telecomm macro and invoked with a single keystroke. Unlike other Framework II macros, Telecomm macros are kept in the Apps:Telecommunications:Setup:Macros submenu. If you look at that menu you will see that there is room for ten macros; **Ctrl-F1** through **Ctrl-F10**. To create a new macro, select the appropriate line in the Macros submenu and type the series of keys that you want the macro to perform. A macro can be of any length, even though the menu may only show up to 27 characters.

Since Telecomm macros are saved with each Telecomm setup file, you can best use them for processes that apply to a specific service. More general macros, which may apply to several of the remote systems you access, should be kept in the Library Cabinet. We will discuss this in more depth later in this article.



To create a macro that logs on to the CompuServe Information Service and navigates to the Ashton-Tate Forum, you will first need to know how to log on manually, because the macro will use the same process. The following transcript was captured in a Telecomm frame used to logon to the Ashton-Tate Forum. The bold-italics indicate the characters that must be typed by you or your macro.

AT DT93839284
CONNECT
^C
User ID: ***12345,1234***
Password: ***bogus-word***
CompuServe Information Service
14:19 PST Monday 24-Mar-86 P
Last access: 09:40 24-Mar-86
Copyright (C) 1986
CompuServe Incorporated
All Rights Reserved
CompuServe TOP
1 Instructions/User Information
2 Find a Topic
3 Communications/Bulletin Bds.
4 News/Weather/Sports
5 Travel
6 The Electronic MALL/Shopping
7 Money Matters/Markets
8 Entertainment/Games
9 Home/Health/Family
10 Reference/Education
11 Computers/Technology
12 Business/Other Interests
!GO ASHTON
One moment please...
CompuServe ASH-1
ASHTON-TATE SUPPORT LIBRARY
1 About the Library
2 Announcements
3 Customer Service Info.
4 Support Center Info.
5 Ashton-Tate Product List
6 Technical Support Library
7 Enter the Forum
8 Authorized Training Centers
9 Multimate International
!

You can see that there are just four steps your logon macro needs to perform. Using English to express the steps, the process looks like this:

1. Wait for connect, and type **Ctrl-C**.
2. Wait for the "User ID:" prompt, and type the ID number followed by **Return**.
3. Wait for the "Password:" prompt, and type the password followed by **Return**.
4. Wait for the "!" prompt, and type GO ASHTON followed by **Return**.
5. End of macro.

Once you have determined these steps for your macro, you may begin to construct it. Press **Ctrl-A-T-S-M** to access the Macros submenu. To edit a macro, just press the key you want to use, such as **Ctrl-F10**. The **Ctrl-F10** macro is special because it is automatically activated when your modem makes a connection. For this reason, **Ctrl-F10** is often referred to as the "automatic logon" macro, and so is exactly what we want for this example. Here is the actual macro string for logging on to CompuServe :

@w^C@t:12345,1234^M@t:bogus-word^M@t!GO ASHTON^M

Our macro first executes the function **@w**. This is one of the two important special functions used exclusively for Telecomm macros. **@w** tells Framework II to wait one second before proceeding. It's a good idea to start an automatic logon macro with a short wait, to be sure the connection is fully established.

Next we send a **Ctrl-C** to "wake up" CompuServe. The caret symbol (**^**) is used to represent control characters that are sent to a remote system (i.e., ^P, ^S, ^Q). If you want your macro to use a control character as a desktop command (such as **Ctrl-C** to pull down the Create menu) you must use a Framework II keyname in brackets: {**Ctrl-C**} (more about that later).

Step two is to wait for the "User ID:" prompt from CompuServe, and then type the ID number. The **@t** function causes Framework II to wait until it receives the character following the **@t**. For example, "@t:" will wait for the colon character in the "User ID:" prompt. When the colon is received, Framework II will continue to process the macro by typing the ID number and **Return**. **Ctrl-M** (**^**M) is a **Return**. You can use the keyname {Return} when you want the macro to press **Return**, but it means the same thing as **^**M.

After the ID number has been sent, our **Ctrl-F10** macro waits for the colon ("@t:") at the end of the "Password:" prompt. As with the ID number, Framework II types the password and **Return** as soon as the colon appears in the active Telecomm frame.

The final step is waiting for the "!" prompt at the end of the CompuServe main menu ("@t!"), and typing GO ASHTON^M. Since these are the final characters in the macro string, the macro ends and you regain complete control of your session.

Now that you have created your automatic logon macro, go back to the Setup menu and select **Write Setup File**. All the parameters you have set in the Telecomm menus, including the macros, are saved to a .TCM file. Select **Begin/Resume Session** when you want to test the logon macro. Alternatively, use the Framework II Setup program to install the Telecomm setup file as one of the nine quick access options in the Apps:Telecommunications submenu (if not already installed in that submenu).

Other Useful Macros

The **Ctrl-F10** macro holds the automatic logon string, which leaves you room for nine other macros in each Telecomm setup file. You will probably have several setup files, one per remote system, each with a different set of macros. To avoid confusion, try to be consistent about assigning individual macros (for example, you could make **Ctrl-F1** the logoff string in all of your setup files). Figure 1 shows an example macro set for a CompuServe setup file.

```
Ctrl-F1  off^M@t:@w@w{Ins}{Esc}{Ctrl-A}TE      ; Logoff
Ctrl-F2  {Alt-M}{Alt-V}                        ; Invoke Library Macros
Ctrl-F3  RTN^M                                 ; Read new messages
Ctrl-F4  L^M{Uplevel}{Home}{Ctrl-A}TTUS        ; Post a message
Ctrl-F5
Ctrl-F6  /HAN^M@t?FrameDude^M                  ; Change Conf. handle
Ctrl-F7  GO IBMNET^M                           ; Access IBM Forums
Ctrl-F8  GO EASYPLEX^M                         ; Access E-mail
Ctrl-F9  GO ASHTON^M                           ; Access A-T Forum
Ctrl-F10 @w^C@t:12345,1234^M@t:bogus-word^M@t!@L9 ; Logon
```

Figure 1.

Ctrl-F1, the macro for logging off, types "off{Return}", waits for a colon, waits two more seconds, presses Ins and Esc to get back to the desktop from emulation, and selects **End Session**. This logoff process should work whether or not you are using terminal emulation.

Ctrl-F4 assumes that you have a word frame on the desktop containing a message to be posted. The "L" command, meaning leave a message, is sent to CompuServe, and the macro navigates to the top frame on the desktop. Then, the frame is uploaded with the **Send as Text** command. In a simple session, the active Telecomm frame will be on the bottom of the tray stack, and all message frames will on top of it. If you delete each frame as it is uploaded, you can continue to press **Ctrl-F4** for each message and quickly send a whole stack of frames.

Notice the change to **Ctrl-F10**. The final command to CompuServe in the automatic logon (GO ASHTON) has been replaced with @L9. The **@L** function links to another Telecomm macro to continue execution. In the example, **Ctrl-F10** finishes by linking with **Ctrl-F9**, which types the GO ASHTON^M command. This new logon macro works the same as before, but now gives us the flexibility of using **Ctrl-F9** at any CompuServe menu to reach the Ashton-Tate Forum. The keyname, {**Ctrl-F9**}, can also be used to link the two macros. In fact, any Framework II keyname can be used in a Telecomm macro to perform actions on the desktop. The curly brackets indicate a desktop control key, whereas the caret indicates control character to be transmitted. Use {**Ctrl-C**} to pull down the Create menu, and ^C to send a **Ctrl-C** to the remote system.

Library Macros

In addition to the ten Telecomm macros that are accessed in the pull-down menus, you can use macros in the Library cabinet. Since the Library is a permanent, global feature on your Framework II desktop, it should contain the most general and widely used macros. Macros that are exclusively used with one remote system belong in the Telecomm macro menu so they can be saved with the setup file for that remote system. For instance, the **Ctrl-F6** macro in Figure 1 changes your "handle" in a CompuServe conference, but makes no sense if used with The Source. On the other hand, some key sequences are useful for many Telecomm tasks and when placed in the Library cabinet they are available as macros during any session. Here are some examples of useful macros to save you several keystrokes for Telecomm menu commands.

{Ctrl-A}TTUS ;	**Send as Text**
{Ctrl-A}TSEB ;	Turn on **Emulation**
{Ctrl-A}TFS ;	**Send a File** (protocol)

Another application of Library macros is for processes that require more than just keystrokes. You can use FRED functions to add looping and decision-making to your macros, making them much more powerful. For example, we could move the **Ctrl-F4** macro from Figure 1 into the Library, and modify it so that it automatically sends several message frames.

```
; Send message frames from desktop.
;
@local(count,loop,cmd),
@eraseprompt,
loop := @value(@inputline("How many message frames to send?")),
count := 1,
@while(count <= loop,
    @performkeys("{Uplevel}{Home}"),
    cmd := @setselection,
    @performkeys("{Esc}{Ctrl-L}GTelecommunications{Return}"&
        "{Dnlevel}"&cmd&"{Return}{Ins}{Ins}{Ins}"&
        "{Ctrl-A}TTUS{Del}{Ctrl-L}GTelecommunications"&
        "{Return}{Dnlevel}/EX{Return}@T:S^M@T:"
    ),
    count := count + 1
)
```

Once you have installed the macro in your Library cabinet as {Alt-U}, or any other macro key, you are ready to use it during a Telecomm session. To keep the program simple, several assumptions have been made. Your desktop should appear similar to the one in Figure 2. The stack of document trays should consist of your message frames to be posted, with the active Telecomm frame on the bottom. You can achieve this by having your message frames on the desktop before you begin the session. Each message frame should be labelled with the appropriate CompuServe command to begin a message. In Figure 2, the top frame is labelled "re3332", which means reply to message number 3332. Also note that the cursor is in the active Telecomm frame, and waiting at the CompuServe Forum Function prompt.

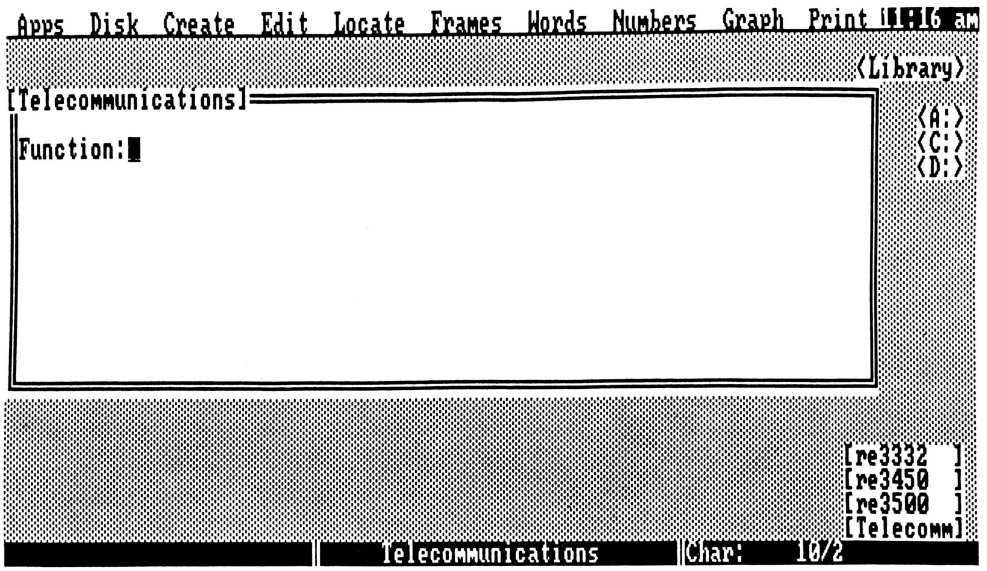
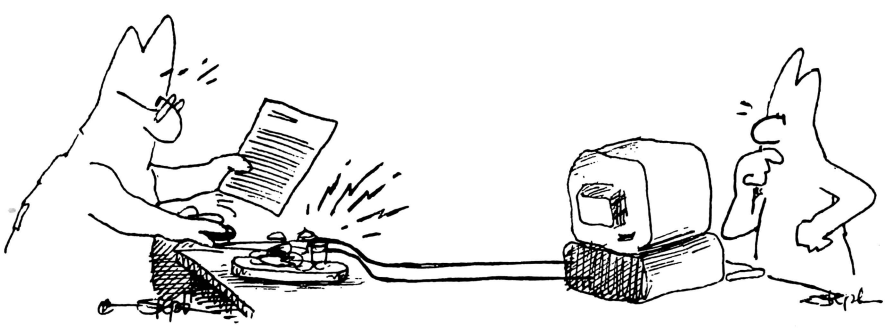


Figure 2

If you do not use CompuServe, the batch message macro above will not be useful to you except as an example. One key point to note about it is that Telecomm functions like @T can be used in the **@performkeys** function the same way they are used in a Telecomm macro. Also, the **@inputline** function is used to get a response from the user, and does not affect the Telecomm session.

Between Telecomm macros and the Library cabinet, you have a lot of automating power behind you. This power is the key to Framework II. Whatever tasks you need to do can be programmed and performed effortlessly, time after time. If only Eli Whitney could see us now...



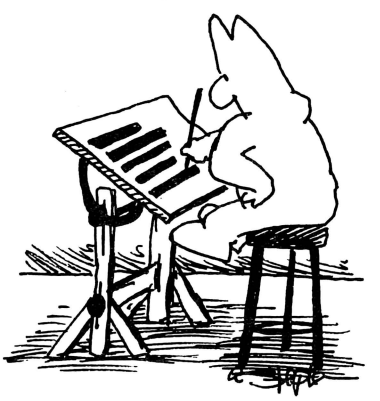
Creating a Database File Library

by Matt Johnson

There are instances where you want to save database file structures in a library. You might sometime later need them in case of file corruption or to perform simple data dictionary operations. The most promising usefulness that a library presents is the ability to collate a series of database structures together and provide a means to query. The following are some of the questions a database file structure library can answer.

1. Given the following fields, what other database files contain these same fields?
2. What fields have similar logical descriptions?
3. What fields have the same definitional attributes such as data type and length? This is useful for standardizing field definitions from a series of similar database file structures.

The COPY STRUCTURE EXTENDED and CREATE FROM commands provide the basis of mechanisms to build and maintain a library of database file structures. COPY STRUCTURE EXTENDED creates a database file that contains the structure of the COPIED database file as records. CREATE FROM creates a new database file from an EXTENEDED database file's records. The EXTENDED database file is not in USE when you execute the CREATE FROM command.



The following program, Savestru.PRG, creates a database file, Strufile.DBF, which contains the structures of all the database files with the (.DBF) extension in your current subdirectory. To run this program, first create two database files with the following structures:

Structure for Strufile.DBF

Field	Field name	Type	Width	Dec
1	Field_name	Character	10	
2	Field_type	Character	1	
3	Field_len	Numeric	3	
4	Field_dec	Numeric	3	
5	File_name	Character	12	

Structure for Dbfile.DBF

Field	Field name	Type	Width	Dec
1	Dbfilename	Character	12	

Strufile.DBF contains the structures of the database files and Dbfile.DBF contains the database filenames. The heart of the program is the COPY STRUCTURE EXTENDED command which will create a database file that describes the structure of the original database files.

To recreate your original database file, execute the following commands:

```
USE Strufile
COPY TO Temp FOR File_name = "Newfile"
CREATE Newfile FROM Temp
ERASE Temp.DBF
```

Be aware that if the database file you are recreating from Strufile.DBF already exists in the current directory and SET SAFETY is OFF, you will overwrite it with the new definition potentially destroying your data.

```
* Program ...: Savestru.PRG
* Author ....: Matt Johnson
* Date ......: June 1, 1986
* Version ...: dBASE III PLUS or the Developer's Release
* Note(s) ...: Creates a database file, Strufile.DBF, which
*               contains the structures of all database files
*               inside the current subdirectory.
*
SET TALK OFF
SET SAFETY OFF
RUN DIR *.DBF > Dbtxttmp.TXT
? "Preparing Strufile.DBF"
?
SELECT 1
USE Dbfile
ZAP
APPEND FROM Dbtxttmp SDF
DELETE ALL FOR (.NOT. "DBF" $ dbfilename);
           .OR. (LEN(TRIM(dbfilename)) = 0);
           .OR.("DBFILE" $ dbfilename);
           .OR. ("STRUFILE" $ dbfilename);
           .OR.("TEMP" $ dbfilename)
PACK
SELECT 2
USE Strufile
ZAP
SELECT Dbfile
GO TOP
DO WHILE .NOT. EOF()
    mfilename = dbfilename
    SELECT 3
```

```
    mfilename = SUBSTR(mfilename,1,8)
    USE &mfilename
    ? "Adding " + LEFT(mfilename,1);
                + LOWER(SUBSTR(mfilename,2)) - ".DBF";
                + " ... "
    COPY STRUCTURE EXTENDED TO Temp
    SELECT Strufile
    strurec = RECNO()
    APPEND FROM Temp
    GOTO strurec
    REPLACE WHILE .NOT. EOF() File_name WITH mfilename
    ?? "Done"
    SELECT Dbfile
    SKIP
ENDDO
CLEAR ALL
ERASE Temp.DBF
ERASE Dbtxttmp.TXT
SET SAFETY ON
RETURN
* EOP Savestru.PRG
```

Searching and Sorting in dBASE TOOLS FOR C

by Robert Boies

In dBASE III PLUS, the key value is typically kept in an index file allowing a logically sorted view of the database file. This is an appropriate form if the key is reasonably simple to create, of fixed length, and has a finite number of duplicate entries. Considering the many ways you can design a keying system, the dBASE III PLUS index file works quite well for better than 90 percent of the applicable cases. But what about the other 10 percent? What about variable length keys, or a large number of duplicate keys? These are best handled through the use of arrays!

This month's topic sorting and searching, continues from April's article on array manipulation. To use an array effectively, you must have a way to place the members in a identifiable order. This is typically achieved by sorting the array according to the value of a key field.

Searches

The Sequential Search

The main objective of sorting a data set is to provide convenience for the output mechanism such as querying or reporting. It is important as you design the sort to take into account the search mechanism you want to use. There are two basic classes of searching mechanisms. The first is the sequential lookup, presented as the model in the previous article in this series. The second is the binary search. Both techniques are discussed in this section with the primary focus on the binary technique.

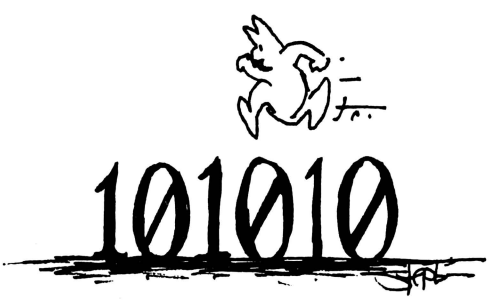
The sequential search begins by comparing the lookup value to a key retrieved from an array position. If the values match, the search routine terminates. If the values do not match, the next array element is retrieved, and the process repeats until a match is found or the end of the array is reached. The sequential search is an adequate device for cases where there are few keys to search. Additionally, the code is easily understood and can be quickly added to an already existing system with few alterations. The sequential model also has the advantage of being able to work with unsorted data. Essentially, the sequential search is the core module of any search system. For a code example, refer to the FINDARRY procedure found in the April issue of ***TechNotes***.

The Binary Search

A more efficient method is the binary search. This method of searching, unlike the sequential model requires that the array be pre-sorted. The search begins by first comparing the lookup value to the middle element of the array. If the value returned matches the lookup value, the search was successful and the routine ends. If not, the search scope is narrowed to the upper half of the array if the lookup value is greater than the middle element. If the lookup value is less than the middle element, the scope is narrowed to the lower half of the array. This process is repeated, and the middle element of the subset is compared to the lookup value until either a match is found or the number of elements in the subset of the array being searched is reduced to one.

The following table, taken from page 240 of *Introduction to Computing* (see reference note 1 at the end of this article), contrasts the number of comparisons necessary to locate a given key value in a presorted array of "n" elements for sequential and binary searches.

Array elements	**4**	**8**	**16**	**32**	**64**	**128**	**256**	**512**	**1024**	
sequential	2	4	8	16	32	64	128	256	512	Average
binary	3	4	5	6	7	8	9	10	11	Maximum



This table clearly indicates the superiority of the binary search as the number of array elements increases. Since the primary reason for using arrays is increased performance, the binary search is the preferred method. The following procedure implements a binary search algorithm, which makes calls to arrays in dBASE TOOLS FOR C. (See reference note 1.)

```
PROCEDURE Cbinary
* Author ....: Robert Boies
* Date ......: June 1, 1986
*
PARAMETERS array_nme, array_type, max_elem, key, place
low   = 0
high  = max_elem
place = max_elem
flag  = .F.
*
DO WHILE ((.NOT. flag) .AND. (low < high))
   middle = INT((low + high) / 2)
   CALL cfunc WITH "GETARRAY " + array_nme + STR(middle)
   * ---Test the middle value.
   IF key = c_&array_type._result
      * ---There is a match, quit.
         place = middle
         flag  = .T.
      ELSE
      * ---Test for the next half to search.
      IF key < c_&array_type._result
         * ---Take the lower half.
         high = middle - 1
      ELSE
         * ---Take the upper half.
         low = middle + 1
      ENDIF
   ENDIF
ENDDO
RETURN
* EOP Cbinary
```

Sorting Primitives

Interestingly, the success of a search algorithm is directly dependent on the sort used to place the array elements in sorted order. Though there are many different sort mechanisms, all are composed of a common set of operations. The primitive functions of sorting are comparing and exchanging. The following demonstrates how sorting is composed of these techniques:

Set current element pointer to first element.
Compare the value in the current element to the next.
If out of sort order, then
  Perform the exchange:
    Store the current element to a variable.
    Store the next element to the current element.
    Store the variable to the current element.
Move to next element and repeat until at end of set.
If not in sort order, then
  repeat the process,
else
  quit.

Examining the syntax of third line of the algorithm, you will find the phrase "sort order". Sort order means the direction of the sort, either ascending or descending.

Compare

A compare operation provides a way to determine if a member of an array meets an established criterion. When these operations are used as primitives in building sorts they must account for complex comparison operators. A simple comparison based only on equality/inequality is not enough. The operation must also take into account the added complexities of the less than (<) and greater than (>) operators.

In the example of the compare primitive below, you must pass the comparison operator in the character variable, comp_op. The mechanism of the compare is to retrieve the contents of the specified array elements to dBASE III PLUS memory variables.

```
PROCEDURE Compare
* Author ....: Robert Boies
* Date .....: June 1, 1986
* Note(s) ...: Compares two adjacent array elements and returns
*              a logical value in the variable swap for
*              the comparison condition defined by comp_op.
*
PARAMETERS array_name, array_type, comp_op, element, swap
PRIVATE temp
CALL cfunc WITH "GETARRAY " + array_name + STR(element)
temp = c_&array_type._result
CALL cfunc WITH "GETARRAY " + array_name + STR(element + 1)
swap = (temp &comp_op. c_&array_type._result)
RETURN
* EOP Compare
```

Exchange

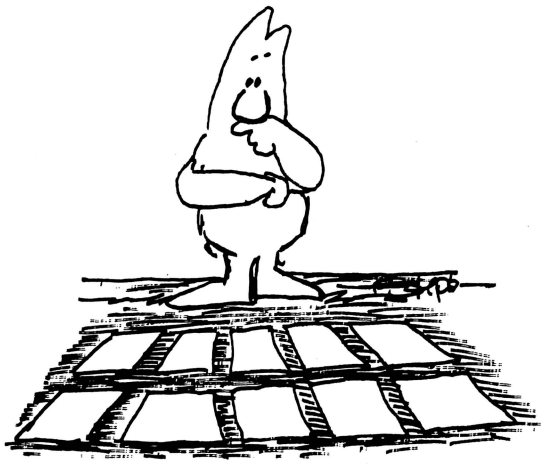
The process of exchanging two array elements requires an intermediate holding bucket for temporary storage. The operation of the primitive is initiated by first retrieving one the elements to be swapped into a holding variable. Second, the other element is then placed in the dBASE TOOLS FOR C default return variable and replaced in the first element's storage location. The value in the holding bucket is then placed in the second variable's old location. The following code demonstrates the Exchange procedure.

```
PROCEDURE Exchange
* Author ....: Robert Boies
* Date ......: June 1, 1986
* Note(s) ...: Exchanges the values of two array elements.
*
PARAMETERS src_array, src_elem_num, tgt_elem_num,;
           tgt_array, array_type
CALL cfunc WITH "GETARRAY " + src_array + ", " +;
                STR(src_elem_num,10)
CALL cfunc WITH "GETARRAY " + tgt_array + ", " +;
                STR(tgt_elem_num,10)
CALL cfunc WITH "PUTARRAY " + src_array + ", " +;
                STR(src_elem_num,10) + ", " +;
                c_&array_type._result
CALL cfunc WITH "PUTARRAY " + tgt_array + ", " +;
                STR(tgt_elem_num,10) + ", " +;
                c_&array_type._result
RETURN
* EOP Exchange
```

Higher Sorts

The Bubble Sort

Because multiple passes must be made through an array to achieve sorted order, the sorting algorithm defined previously is inefficient in its most primitive form. This is especially so for large arrays. An example of this type of sort is the bubble sort. It gets its name from the way keys 'bubble up' through the array to achieve sorted order. Efficiency is improved by limiting the total number of comparison cycles necessary to complete the sort. This is accomplished by decrementing the element pointer. The previous element is then compared against the swapped element instead of moving forward to the next element. The process continues to cycle backwards until the key is placed in its correct relative position. Once this occurs the element pointer is incremented and the process continues forwards until a key is found out of order. The overall process repeats until all keys are arranged in sort order. A dBASE III PLUS model to implement the mechanism for an array is as follows.



```
PROCEDURE Bubsort
* Author ....: Robert Boies
* Date ......: June 1, 1986
* Note(s) ...: Performs a bubble sort on an array passed as a
*              parameter.
*
PARAMETERS array_name, array_type, tot_elem
i = 0
swap = .F.
DO WHILE i <> tot_elem
   DO Compare WITH array_name, array_type, ">", element, swap
   curr_elem = i
   DO WHILE swap
      DO Exchange WITH array_name, i, i+1, array_name, array_type
      i = i - 1
   ENDDO
   i = curr_elem + 1
ENDDO
RETURN
* EOP Bubsort
```

Conclusion

It is possible to utilize the compare and exchange algorithms in other combinations to produce new sort models. These can include classical models such as the bubble sort. You may also create custom sort models of your own design. The models demonstrated in this article are examples to get you started designing methods for array manipulation of mainly character arrays. The dBASE TOOLS FOR C include an internal sorting mechanism for numeric arrays. This mechanism is the ROS function. If you have an application for sorted numeric arrays it would be best to investigate the use of this function first since the sort will be performed at compiled speed. The following references contain a wealth of information on constructing sorts of all types. I recommend that you take time to review them from an educational perspective before attempting to design a new sort.

References

1. Dyck, V.A., Lawson, J.D., and Smith, J.A. *Introduction to Computing.* Reston, VA: Reston Publishing Co., Inc., 1979.

2. Lorin, Harold. *Sorting and Sort Systems.* Reading, MA: Addison-Wesley Publishing Co., Inc., 1975.

USAGE TIPS

dBASE III PLUS

by Christopher White

CREATE SCREEN

It is advisable not to use the double quotation mark ('') on the blackboard of the screen painter. If you do, you will get the error message "Unrecognized phrase/keyword in command" when you use the generated format file in a full-screen operation. This is because when the screen painter writes the text portions of the blackboard to the format file they are enclosed in double quotation marks. For example, if you place the following string on the blackboard,

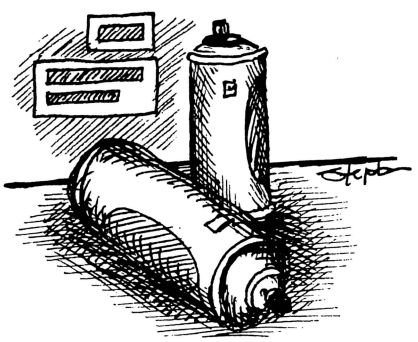
Enter "Y" for Yes

with the embedded double quotation marks, the screen painter will write that line to the format file as,

@ 1,1 SAY "Enter "Y" for Yes"

This causes the letter Y to be interpreted as a dBASE III PLUS command. If you need double quotation marks as nested string delimiters as in the example above, modify the format file replacing the outer double quotation marks with square opposing brackets, ([]). The following line shows how this should look:

@ 1,1 SAY [Enter "Y" for Yes]



Filenames

DOS allows you to create filenames with embedded special characters that include the dash character "-". The dash character, however, is used by dBASE III as part of the alias designation when referring to fields from a non-SELECTed work area. Although dBASE III will allow you to CREATE a database file with the embedded dash, attempting to use the database filename as the alias will result in the error message "Variable not found." For example,

```
USE T-file
SELECT 2
? T-file->field1
Variable not found <-- Error message.
```

If you have a database file with an embedded dash, you can work around this problem by assigning your own alias when you USE the database file. For example,

```
USE T-file ALIAS T_file          Assign your own alias.
SELECT 2
? T_file->field1                 Refer to the work area with your
                                 new alias.
```

JOIN

The JOIN command does not support memo fields in dBASE III PLUS. Executing a JOIN with a memo field in the FIELDS clause returns the error message "Invalid operation on a memo field." In the dBASE III versions 1.0 and 1.1, the (.DBT) file is not created but the value of the first byte of the target database file is 83h, designating the database file as having a memo field. Attempting to use this database file returns the error message "Memo file can not be opened."

For further information, refer to the March 1985 issue of ***TechNotes*** beginning on page D3-9.

Removing Characters from Strings

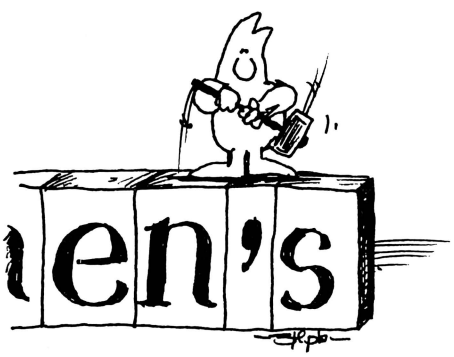
Discussion

For a variety of reasons, you may want to eliminate characters from a field or memory variable. The program that follows, Remove.PRG, eliminates every instance of all character in a set from a string passed to it and returns the result into a pre-initialized memory variable. To call Remove.PRG, execute a command line in the following form.

```
DO Remove WITH <source string>,<characters to remove>,;
               <return memory variable>
```

As an example, the following demonstrates the removal of a single character from a memory variable:

```
target = ""
source = "***STRING"          Before surgery.
DO Remove WITH source, "*", target
? target                      Character to remove.
STRING                        After surgery.
```



One of the most useful ways you can apply this program is to remove a set of characters from a series of records in a database file. The following example demonstrates this concept, removing a set of characters from a specified field for the entire database file.

```
USE Yourfile
DO WHILE .NOT. EOF()
result = ""
DO Remove WITH Yourfield, "+/-", result
REPLACE Yourfield WITH result
SKIP
ENDDO
```

```
* Program ...: Remove.PRG
* Author ....: Christopher White
* Date ......: June 1, 1986
* Version ...: Any version of dBASE III
* Note(s) ...: Removes any set of characters from within a
*              target string.
*
PARAMETERS string, remove, result
length = LEN(remove)
counter = 0
string = string + " "
DO WHILE counter <= length .AND. LEN(string) > 1
char = SUBSTR(remove,counter,1)
DO WHILE char $ string
string = SUBSTR(string,1,AT(char,string)-1) +;
SUBSTR(string,AT(char,string)+1)
ENDDO
counter = counter + 1
ENDDO
result = string
RETURN
* EOP Remove.PRG
```

REPORT FORM

In dBASE III PLUS, a number of changes have been made to the REPORT FORM. There are two additions to the REPORT FORM command line allowing you greater control when you execute REPORT FORMs. A second major area of change is the user-interface of CREATE/MODIFY REPORT. Replacing the page orientation of prior versions is a new pull-down menu style that is consistent with other full-screen modes such as ASSIST and CREATE/MODIFY LABEL. Along with the new interface are several added capabilities discussed below.

Changes to the REPORT FORM Command Line

The REPORT FORM now supports inclusive FOR/WHILE conditional clause combinations. For example,

REPORT FORM Problem WHILE Product = "D3" FOR "GET" $ Entry

Note, the WHILE condition takes precedence over the FOR condition.

A SUMMARY option has been added to the command line so you can summarize grouped reports without changing the REPORT FORM definition. For example, if you CREATEd a grouped REPORT and did not specify it as summary, you can print a summary version as follows.

REPORT FORM Yourfile SUMMARY TO PRINT

REPORT FORMs can still be defined as summary in CREATE/MODIFY REPORT.

New Options in CREATE/MODIFY REPORT

Changes within CREATE/MODIFY REPORT fall into two categories. First are changes that affect the way you create your report. Second are new features that affect the report definition itself.

Options menu: The options menu is the configuration area for attributes that affect the entire report. This includes such things as margins, number of records per page, and page title. This menu performs the same function as the first page of the REPORT FORM definition in prior versions of dBASE III. There are three options new to dBASE III PLUS. You can now define as an attribute of the REPORT FORM, an initial page eject, a trailing page eject, and suppression of some page heading information. The following table shows the new menu choices and the default values.

Option	Default Value
Page eject before printing	Yes
Page eject after printing	No
Plain page	No

Column menu: A field selection menu can now be invoked from the Contents area by pressing the **F10** key. This gives you a list of fields to select, from either the current database file or the global field pool if FIELDS is SET ON. Navigate to the field you want with the **Uparrow** or **Dnarrow** keys and select with the **Return** key.

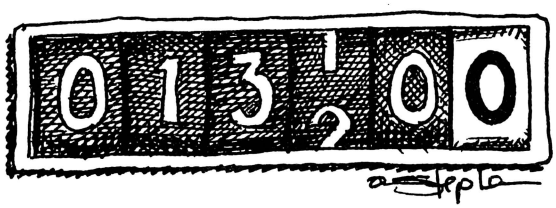
Locate menu: The Locate menu is an entirely new menu in CREATE/MODIFY REPORT. It allows you navigate to a report field by selecting from the list of field contents. In previous versions of dBASE III, this function was performed by the menu line brought up by pressing **Ctrl-Home**.

Navigation menu: Pressing the **F1** key toggles between the Report Format and the Navigation menu. The **Ctrl-PgDn** key brings any edit line down to an action line that sits directly above the status line. This action line is an editable command line used to display a larger area than the specific command line you are working with.

Pressing **Return** or **Ctrl-PgUp** while on the action line terminates editing and passes all changes in the command line to dBASE. Pressing **Esc** terminates editing and aborts all changes to the command line made while in the edit mode. The following summarizes the new key definitions:

Ctrl-PgDn	Go to the action line
Ctrl-PgUp	Return to the command line

SET ODOMETER TO



The SET ODOMETER TO command is an undocumented command implemented in the Developer's Release and dBASE III PLUS. It allows you to SET the increment of the progress indicator that displays below the command line for commands such as AVERAGE, COPY, COUNT, or SORT.

Syntax: SET ODOMETER TO <expN>.

Notes: The default value of the ODOMETER is 1. SETting it to a higher value speeds up the operation of commands that display an ODOMETER when TALK is ON.

Example: SET ODOMETER TO 100 && Update every 100 records.
SET ODOMETER TO 5000 && Update every 5000 records.

dBASE III PLUS Administrator

by David Howlett

"Network is Busy"

The dBASE III PLUS Administrator error message, "Network is busy" indicates the number of network tasks being requested at one time is more than the server can handle. When this occurs, operations on the network may no longer be reliable. An indication that network operation is no longer reliable is that the Administrator may have difficulty parsing valid dBASE III PLUS commands.

There are few work-arounds for this situation. If you are able to recover from the error, CLEAR ALL and QUIT. Your best alternative is to lessen activity on your network.

GOTO/SKIP

Attempting to GOTO a record on a network locked by another user with the RLOCK() function will return the error message "Record is in use by others." Using SKIP with no numeric expression, however, does not generate this error message and a subsequent DISPLAY will only display blank information. Executing a SKIP with a numeric expression generates the expected error message.

The inconsistency between the GOTO and SKIP commands only occurs when the RLOCK() function is used to lock a record. Locking the record with FLOCK() will not cause this problem.

PROTECT

When you use PROTECT to create a password system for the dBASE III PLUS local area network users, PROTECT creates the file DBSYSTEM.DB in the dBASE III PLUS Administrator subdirectory of the file server. If you run ACCESS.COM and the Administrator is not in the default directory, the password entry screen into the Administrator is bypassed. When this happens, the user is assigned an ACCESS() level of 0, but still cannot USE database files and fields that are above his file and field access level.

For example, suppose you have installed the Administrator on the file server and the logical drive assignment is E:. Running ACCESS.COM from the C: drive defeats the password system.

```
C>ACCESS M=E:
```

Default drive and directory

The work around is to start ACCESS.COM with the default drive set to the Administrator directory,

```
E>C:ACCESS M=E:#DF=C
```

The location of the Administrator

Read-Only Files

Several dBASE III Administrator commands have difficulty with read-only files. Attempting to MODIFY a REPORT file designated as read-only by the operating system yields inconsistent results. On the IBM PC-Network, the MODIFY REPORT screens appear and you can make changes to the report but your changes are not saved and no error messages is generated.

Using MODIFY COMMAND with a text file designated as read-only by the operating system also yields inconsistent results. On the IBM PC-NETWORK, this causes the workstation to freeze when **Ctrl-W** or **Esc** is pressed.

RUN

If you use the RUN command on a Novell network, the Novell operating system closes all open files unless you execute the Novell utility program EOJOFF before beginning the dBASE III PLUS Administrator. EOJOFF configures the Novell operating system so that files are not closed whenever you access the network operating system directly.

SET PRINTER TO

The SET PRINTER TO <network device> command will generate a "Syntax Error" message if the user is not currently on a network or if the command is inappropriate to the network in use. For example, the command SET PRINTER TO \\SPOOLER is appropriate only to the Novell network, and will generate "Syntax Error" message if the Novell network is not currently installed or if it is used on the IBM PC-NETWORK.

Framework II

by Chris LoVasco

Case Structure in Framework II

If you code a series of nested **@if** formulas in a cascading structure such as:

```
@if(<condition one>,
    <condition one true path>,
    @if(<condition two>,
        <condition two true path>,
        @if(<condition three>,
            <condition three true path>,
            <condition three false path>
        )
    )
)
```

you may find it a little difficult to maintain the readability of your code. If you have worked in another applications language such as dBASE, you are probably familiar with the case structure as an alternative to cascading ifs. This programming structure allows you to select from a list of conditions, executing only the code associated with the first true condition. In Framework II, there is no case structure per se. The **@select** function, however, provides the basis of one, allowing you to select a formula to execute from an indexed list. The index is an integer that points to the ordinal position of the formula to execute. Missing is an evaluation of your conditional expressions as the selection mechanism.

So, to use the **@select** function as the basis of a case structure, you must create a user-defined function that takes a list of conditional expressions and returns the ordinal position of the first true condition. **@select** can then use this value as the index into the list of formulas to execute. In the example below, this function is called @case.

```
@select(@case(<condition 1>,<condition 2>,<condition 3>),
    <formula 1>,
    <formula 2>,
    <formula 3>
    <otherwise formula>
)
```

To create the @case function, create an empty frame in the user-defined functions section of the library and enter the following formula into the formula area:

```
@local(i),
i := 1,
@while(@and(@item(i) <> #true,i < @itemcount + 1),
    i := i + 1,
),
@return(i)
```

The @case function works by testing each condition passed to it in an **@while** loop until either a true condition is found or there are no more conditions in the list. If no conditions are true, @case returns the number of conditions passed to it plus one. The provision for no true conditions allows you a "none of the above" or "otherwise" clause. Be sure to define the last formula in the **@select** as the "otherwise" clause. This "otherwise" formula should return any meaningful value, including error constants.

There is only one serious limitation to the @case function: the maximum number of conditions that can be passed is 16, the upper limit of **@item** and **@itemcount**. This is a limitation of parameter passing within the FRED language.

@performkeys of Keystrokes

The **@performkeys** function is one of the most frequently used of all the Framework II programming functions. The biggest problem using it, however, is the number of keystrokes involved in typing keynames. You can, of course, use the Create: Macro submenu to define a set of keystrokes as keynames, but this is inconvenient when you just want to define a few keynames and you really don't want to execute the keystrokes.

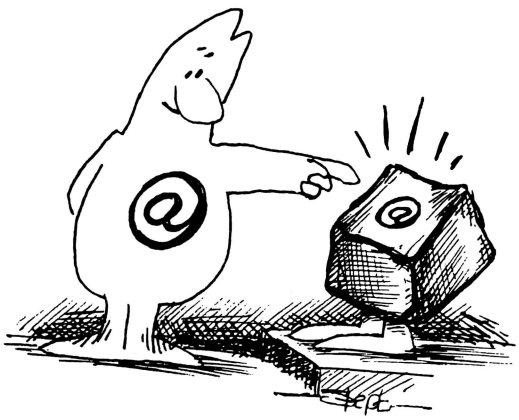
The following macro formula will allow you to type a key and have the keyname appear as text instead of the action of the key. Place it in the formula area of a frame in the macro section of your library and label it with the appropriate **Alt** keyname. To execute the keyname macro, press the appropriate **Alt** key. The **Ctrl-Break** key will terminate execution.

```
@local(inkey),
@eraseprompt,
@prompt("Press a key to be named - Ctrl-Break to Exit",20),
@while(#true,
    inkey := @keyname(@nextkey),
    @performkeys(
        @if(@mid(inkey,1,1) = "{",
            "{{}"&@mid(inkey,2,@len(inkey)-2)&"}",
            inkey
        )
    )
)
```

To further conserve keystrokes when using **@performkeys**, define an abbreviation that performs the string *@performkeys(*" and the keyname macro key. The contents area of the abbreviation frame would look like this:

```
@performkeys("{ALT-K}")
```

With the keyname macro and **@performkeys** abbreviation, your FRED programming productivity should improve markedly especially when it comes to **@performkeys.**



@writetextfile

A variable cannot be used as either the first or the second argument of the **@writetextfile** function. An example of *improper* usage is:

```
@local(localvar),
localvar:=@setdrive & @setdirectory & "\TEXT.TXT",
@writetextfile(localvar,FRAME)
```

If used in that way, **@writetextfile** will not write a file to the disk. The correct way to use variables with this function is to build the **@writetextfile** as a string variable and execute it as a user-defined function.

```
@local(var),
var := "@writetextfile(" & @setdrive & @setdirectory &
    "\TEXT.TXT,FRAME)",
@var
```

LQ-1500 Printer Driver

Unexpected limitations may be encountered when printing graphs with the LQ-1500 printer driver. This driver installs the LQ-1500 quadruple density mode, which prints very dense, small graphs. Sizing the graph larger may return the "Frame too large to be printed" error message. To print larger graphs, you must use Setup to install one of the Epson FX-100 drivers. Maximum graph sizes can be achieved with the Single Density FX-100 driver.

Copying a Range of Cells One Column to the Right

Copying multiple columns one column to the right will not overwrite the existing data until the overlap has been exceeded. For example:

A	B	C	D	E
1	2	3	4	5
1	2	3	4	5

If cells A1:D2 from the above spreadsheet were copied so that column A would end up in column B, the following would result:

A	B	C	D	E
1	2	3	4	4
1	2	3	4	4

This is because Framework II does not allow the source information of a copy to be overwritten.

The correct procedure is to use MOVE (F7) to put the range of cells into the new location, and then COPY (F8) to replace any cells that were lost.

DOS Access—Capturing a Session

As stated on page 10-3 in *Using Framework II* issuing a PC/MS-DOS CLS command will cause the DOS session not to be captured in the access frame. This will also happen if "DEVICE=ANSI.SYS" is present in the CONFIG.SYS file, when a utility program like DOSEDIT or CED is loaded in memory, or when any program that is run in DOS Access takes over the screen.

Rundbase.FW2

This program assumes that Framework II is on drive C: and dBASE III is in drive A:. The following changes should be made if the user desires to change that configuration:

1. Change the **@setdrive** statement to set the correct drive for loading dBASE III.
2. Add an **@setdirectory** function to change the default directory to the dBASE III directory.
3. Change the **@run** statement to reflect correct drive.
4. Add another **@setdirectory** function at the end of the program to change the default directory back to the Framework II directory

ANOMALIES

@run with Recalc Formula During Printing ON

If a frame formula contains an **@run**, and **Recalc Formula during Printing** in the **Print:Control Options** menu is turned ON, the desktop display may be refreshed more than once. This causes a "flickering" effect on the screen which will appear as the **Recalc Formula during Printing** is turned ON, and will also appear the next time either the **Print:Format Options** or the **Print:Control Options** submenus are accessed (while **Recalc formula during Printing** is ON).

This is only a screen display problem and will disappear when the **Recalc formula during Printing** is turned OFF.

Multiple Lines in a Graph Title

If the **@drawgraph** formula of a graph frame is edited to include a multiple line title, graphics characters will appear when the frame is recalculated.

Invalid Name for Personal Dictionary

If a user enters an invalid personal dictionary name in Apps:Spelling Check:Personal Dictionary, such as ".", the following error message will appear:

> Personal dictionary not found. Create a new one and continue? (y/n)

If the user then types "y", the same message will appear again. A "." is an invalid name, yet Framework II does not indicate this.

MULTIMATE TECHNICAL SUPPORT

MultiMate Version 3.30 Printer of the Month

Hewlett-Packard ThinkJet (Model 2225C)

The ThinkJet is actually two printers in one - an Epson printer and a Hewlett-Packard printer. On the back of the printer are dip switches. Setting switch number five to the up position makes the printer accept Epson print command codes. Setting this same switch to the down position makes it accept Hewlett-Packard codes. For this reason, there are two printer action tables for the Thinkjet: THINKJET and HP2225C. The Printer Action Table called THINKJET is located on the Boot/System diskette and is used when dip switch five is in the down position (HP mode). The other, HP2225C, is available through MultiMate Technical Support and is used when switch five is in the up position (Epson mode).

The following is a comparison of functions between the printer features and the printer action tables:

THINKJET	HP2225C
Hewlett-Packard Mode	Epson Mode
Bold is enhanced print	Bold is enhanced print
Automatic Underscore	MultiMate does underscoring
0, 1, 2, and 3 Line Spacing	Can do all Line Spacing
No superscripts/subscripts	Can do superscripts/subscripts
Pitch 1 6 cpi	Pitch 1 6 cpi
Pitch 2 6 cpi	Pitch 2 6 cpi
Pitch 3 10.7 cpi	Pitch 3 10.7 cpi
Pitch 4 10.7 cpi	Pitch 4 12 cpi
Pitch 5 10.7 cpi	Pitch 5 12 cpi
Pitch 6 12 cpi	Pitch 6 12 cpi
Pitch 7 12 cpi	Pitch 7 21.3 cpi
Pitch 8 21.3 cpi	Pitch 8 21.3 cpi
Pitch 9 21.3 cpi	Pitch 9 21.3 cpi

Proportional spacing, microjustification, and shadow print are not available on this printer. However, it supports many of the extended characters, as well as zero, one-quarter, one-half, single, one and one-half, double, two and one-half, and triple line spacing.

The HP LaserJet's "B," "F," "P," "T," "U," and "V" Cartridges

Proportional Spacing

With MultiMate's versions 3.31 and higher (including Advantage), proportional spacing with the LaserJet's proportionally spaced fonts is possible. To do this, you must always select "Y" to "Proportional Spacing" on the "Print Parameters For Document" screen. Next you must use the appropriate Character Width Table (CWT) for the font you are accessing on the LaserJet cartridge being used. CWTs are specified on the "Print Parameters For Document" screen in the "Char Translate / Width Table" field.

Since the font you access on the cartridge is controlled by selecting a different pitch within MultiMate, you must enter that pitch on "Print Parameters For Document" screen in the "Default Pitch" field. Depending on the pitch that is entered you must then choose the appropriate CWT. Below is a list of which CWTs to use.

PRINTER ACTION TABLE	PITCH#	CHAR TRANSLATE / WIDTH TABLE (CWT)
For the "B" Cartridge:		
LJETBPS	1	LJETBPS1
LJETBPS	2	LJETBPS2
LJETBPS	3	LJETBPS3
LJETBPS	4	LJETBPS4
LJETBPS	5	LJETBPS5
For the "F" Cartridge:		
LJETFPS	1	LJETFPS1
LJETFPS	2	LJETFPS2
LJETFPS	3	LJETFPS3
LJETFPS	4	LJETFPS4
LJETFPS	5	LJETFPS5
For the "P" Cartridge		
LJETPPS	1	LJETPPS1
LJETPPS	2	LJETPPS2
LJETPPS	3	LJETPPS3
LJETPPS	4	LJETPPS4
LJEYPPS	5	LJETPPS5
For the "T" Cartridge:		
LJETTPS	1	LJETTPS1
LJETTPS	2	LJETTPS2
LJETTPS	3	LJETTPS3
LJETTPS	4	LJETTPS4
LJETTPS	5	LJETTPS5
For the "U" Cartridge		
LJETUPS	1	LJETUPS1
LJETUPS	2	LJETUPS2
LJETUPS	3	LJETUPS3
LJETUPS	4	LJETUPS4
LJETUPS	5	LJETUPS5
For the "V" Cartridge:		
LJETVPS	1	LJETVPS1
LJETVPS	2	LJETVPS2
LJETVPS	3	LJETVPS3
LJETVPS	4	LJETVPS4
LJETVPS	5	LJETVPS5

Currently, in MultiMate versions 3.31 and higher, only the pitch in the "Default Pitch" field of the "Print Parameters For Documument" screen will control the pitch of the printed document. MultiMate will ignore pitch changes during proportional spacing.

You may use the 3.30 Printer Action Table LJETBPOR (located on your 3.30 diskette) to acheive Pitch changes in a document printed with the "B" Cartridge. However there will be alignment problems with centering, tabs, and indents.

LETTERS

Output to A Diablo Printer

Dear ***TechNotes***:

As a novice user of dBASE III, I have found ***TechNotes*** to be a very informative publication. I do not have access to issues prior to September, 1985, and think that your prices for back issues and subscriptions are a bit steep.

I have written command files that output to a Diablo printer; but I suspect that other printers have similar characteristics. If a CHR(12) is sent as part of an escape sequence (for example, ?? CHR(27) + CHR(31) + CHR(12)), the Diablo resets its horizontal motion to 11 characters per inch. dBASE III resets its row counter, PROW(), to zero. If an attempt is made to print on the next line, the paper advances as if the CHR() sequence was at row zero. To work around this, add 128 to the 12, which results in 140, and say ...+ CHR(140). The Diablo will ignore the eighth bit - see ***TechNotes*** September, 1985, page 17: "CHR(0)". The CHR(12) can be used to advantage when the previously printed forms do not end with an EJECT. The following example shows this:

```
*—- Set the row counter to zero at the top of form.
SET DEVICE TO PRINT
IF PROW() < > 0
@ PROW(),0 SAY CHR(27) + CHR(12)
*—- The Diablo ignores an Esc 12 sequence.
ENDIF
<..... command instructions .....>
SET DEVICE TO SCREEN
RETURN
```

If you feel this information may be of use to other users, please feel free to pass it on.

F.E.

Dear F.E.:

Thank you for your comments regarding ***TechNotes***. Many people share your feelings regarding the pricing of both subscriptions and back issues. We are continually looking into ways of reducing our costs and passing those savings on to you. Many ideas we get come from your responses on surveys that are either in ***TechNotes*** or that are mailed to you. So we urge everyone to complete these surveys as this gives us a better idea of what you want and how we can fulfill these needs in a cost-efficient manner.

Also, thank you for the information regarding the Diablo printer escape sequences. We strongly encourage all of our readers to send us their experiences so that we can share that knowledge with all users of our products.

Framework II on A Novell Network

Dear ***TechNotes***:

I am using Framework II on a Novell network. The main problems I am experiencing are not finding network drives and not spooling to the network print spool properly. A partial answer is to grant every Framework II user the Search (S) right in the root directory of each volume used, even if the user never uses the root directory, and even if the user has full rights in the directories he is using. Apparently, Framework II checks for an existing directory by looking for it in the root directory rather than just trying to pinpoint it (the latter technique would work, the former will not). I hope this information is useful to other users.

R.G.

Dear R.G.:

Yes, this information will be useful to others. However, Ashton-Tate does not support Framework II in a multi-user environment. Only dBASE III PLUS is supported in a multi-user environment.

dBASE II/III on IBM PC Network

Dear ***TechNotes***:

I am trying to use dBASE II and dBASE III version 1.1 as a single-user on an IBM PC Network. I am constantly getting data corruption. What may be causing this?

L.Z.

Dear L.Z.:

dBASE III PLUS is the only product that Ashton-Tate supports in a multi-user environment. Data corruption can exist using dBASE II and/or dBASE III version 1.1 under a multi-user system. When a database file is in USE with dBASE II or dBASE III, it is set up for read/write. In addition, the FAT (File Allocation Table) and directory image of the disk is read into memory and it locates the next available sector on the disk to write information. If that physical drive is accessed by someone else on the network, even if it is a different volume, that person may write to the new sector before you have time to close the database file. This can result in cross-linked files.

Programming Function Keys in dBASE III

Dear *TechNotes*:

I am a dBASE III user. I can find no way to use all the function keys for the menu selections, without having to use **Return**. The WAIT command is not able to sense the **F1** key. I can find no way to reprogram the **F1** key. I can find no way to beep the bell, other than during data entry with the GET command. I can find no way to simulate the function of an INKEY() type command. Are there any ways to do these four things that may have been overlooked? Also, are there any enhancements to dBASE III that would allow me to do any of these four things?

J.M.

Dear J.M.:

dBASE III version 1.1 allows the user to assign up to a 30-character sequence to function keys **F2** thru **F10**. The dBASE III manual states, "The function key **F1** may not be reprogrammed." It also states, "The semicolon is used to indicate a carriage return." With this, you can SET your menu options to a function key and include a carriage return.

The bell can be controlled with the ? or ?? command. The ASCII representation of the bell is CHR(7). Therefore, to beep the bell at any time, use ?? CHR(7).

A key sensing function is not available in dBASE III. However, the Developer's Release and dBASE III PLUS have an INKEY() function. The INKEY() function allows for user interrupt of a program which may start execution of different code. In addition, both the Developer's Release and dBASE III PLUS have ON ESCAPE, ON KEY, and ON ERROR commands to trap key pressing and errors.

INDEXing A Character Field with A Descending Numeric Field

Dear *TechNotes*:

I am a user of both dBASE II and dBASE III. One of my database files contains two numeric fields, Dept and Amount. Dept is a department number, and Amount is the current amount for that department. Using the command:

```
SORT ON Dept, Amount/D TO newfile
```

I am able to create a new database file in order by department (Dept), and within each department, the Amount field is descending (that is, from highest to lowest). I use the SORT command because I was never able to INDEX the database file properly. Due to the file growing so large, data retrieval is extremely slow. I have tried:

```
INDEX ON Dept – Amount TO filename
INDEX ON Dept + Amount DESCENDING TO filename
```

The first file was not correct, while the second attempt gave me a Syntax Error. Can INDEXing be done?

F.C.

Dear F.C.:

Dept and Amount are numeric fields. When two numeric values are added or subtracted, a third value is created. Therefore, INDEXing on Dept - Amount results in an INDEX file where the key is the subtraction of the two fields. In order to INDEX properly, the numeric keys must be put into character STRings. Therefore, the appropriate syntax for indexing two numeric fields is:

```
INDEX ON STR(Dept,10,0) + STR(Amount,10,2) TO filename
```

However, Amount will be ascending. To make the Amount field descend, use 9999999.99 - Amount. As Amount gets larger, the key gets smaller. Therefore, the correct syntax is:

```
INDEX ON STR(Dept,10,0) + STR(9999999.99-Amount,10,2) TO filename
```

On-Line Services

Do you have a modem? Do you subscribe to CompuServe, The Source, or Onepoint? If so, we have great news for you! Ashton-Tate offers technical support on all of these electronic information services. You can quickly access the kind of quality technical information that you have come to expect from ***TechNotes***, and you can do it through your computer system. To take advantage of this progressive new support method, you must subscribe to one of the services listed below. There are no additional charges for using our on-line support services, apart from the normal connect-time fees for each service. You can get specific subscription information by calling one of the following numbers:

Service	Subscriber Information	Command to find Ashton-Tate
CompuServe	(800) 848-8199	GO ASHTON
The Source	(800) 336-3366	ATSIG
Onepoint	(800) 222-2250	

To give you an idea of the fast-moving dynamic support that is happening on-line, ***TechNotes*** will be publishing regular excerpts from the Ashton-Tate Forum on CompuServe. This monthly material comes from messages our Forum users have posted on the bulletin board. To retain the original sense of this material, we have edited only for spelling, and all message headers have been removed to protect the identities of our users. The italicized text represents the replies that were posted to specific questions.

Framework II:

Which numbers do I specify in Framework II setup to get a bright white foreground and a light blue background on a standard IBM CG adapter and monitor? Many thanks.

You cannot set background on a standard IBM color display with Framework II. You can set foreground, but background must be black. The color codes to use are listed in the IBM BASIC manual under the COLOR command (page 4-50 in my 2.10 book).

I have an IBM color display. In Framework II setup I select IBM color text and screen color foreground = 7, screen color background = 1, and I get beautiful white letters on a royal blue background with green and red accents for bold and underlining. It is very easy on the eyes. My neighbor down the hall with a similar setup uses brown and yellow based on the BASIC color codes.

That means you are not using the Color Graphics driver, but the Color Text driver. They do operate differently with regard to colors. A Color Text driver will allow you more flexibility with colors, such as settable foreground and background, but no dot graphics.

.....

I have a problem with the telecomm portion of Framework II. Settings at 1200 baud, data bits 7, parity even, stop bit 1, duplex full. get message "Waiting for trap character from remote system". It will not allow any input does not show on-screen cursor just sits like a bump on a log??? Finally disconnects line. I am presently using PC-Dial for this message without any problems. Need help!

Sounds like you have a logon macro that isn't getting a character it's looking for. From the telecomm setup menu load the TCM file and look at the ctrl-F10 macro to be sure it's correct. Framework II starts this macro automatically when the modem connects. Remove the macro entirely and try to connect to the remote system again.... you'll have to log on manually, but at least you'll get started. In the macro, my most common error is an incorrect number of ^M's or <enter>'s. Telenet trips me up this way quite often. Hope this helps...

.....

I have recently added a Qubie PC20 hard disk to my Compaq Deskpro2 computer and I am not having much luck installing Framework II on the hard disk. Each time I run the Setup program I get a message which says "command processor cannot be found." I have, however, copied all of the MS-DOS files on to the hard disk. Is the Qubie hard disk one of the "non-standard" hard disks that Framework II doesn't like, or am I just missing something obvious. Any suggestions would be very welcome.

Did you format the hard disk with "FORMAT C:/S"? Does it boot from the hard disk? If you want to talk, I have some ideas. I have worked with Qubie on an AT&T but did not try Framework II on it yet. Good luck.

Thanks for taking the time to respond to my plea for help. I figured out the problem — the COMMAND.COM file was in the wrong sub-directory. It just took me a while to figure out how to use pathnames, etc. I think I've got it under control now, though.

.....

I know this must be a terribly simple question (and even worse, I know the answer must be in the manual somewhere), but how do I (1) Embed printer control codes in a FW II word frame (e.g. to print in expanded text)? (2) How do I change line spacing in the middle of a document? I've only had FW II for about a week, but I'll be stitched if I can find the answer in the manual.

1. To embed control codes in text, hold down the Alt key and type the ASCII decimal code on the numeric keypad. When you release the Alt key, your code will be placed in the frame. 2. The only way to change line spacing is to embed a printer control code, or easier, put the material into separate frames and print from a containing frame.

.....

dBASE II, dBASE III, and dBASE III PLUS:

When using dBASE II (COMPAQ portable, MS-DOS 2.11), I find that if I use Sidekick (Version 1.56) to edit Command files, the command files are not completely and/or accurately "read" by dBASE. Is there some problem, or incompatibility with end of file markers?

dBASE II doesn't know that there have been changes to the file and/or directory unless you either (1) use MODIFY COMMAND within dBASE II to change the file's contents, or (2) issue a RESET <d>: command within dBASE II (where <d> is the drive name) after the file has been changed and saved back to disk. I ran into the same problem when I first started using SK for my dBASE II editor...

.....

I've figured out the solution to the problem we spoke about the other day. At the office, there are three copies of dBASE III PLUS installed on 3 different computers. I did the installs myself, and then took the disks and locked them up in my file cabinet. When I had to uninstall prior to doing the reformat, I just took the top package of disks. The Uninstall program gave me the "Product not installed" message. It now occurs to me that what that message should have said is "This diskette's serial number does not match the product installed on your system". To test this out, I took all of the diskettes to another machine and tried to do the uninstall. I got the "not installed" message the first time and then the uninstall process worked when I hit on the right disk. Does this make any sense to you, or are random gremlins inhabiting my system?

No gremlins, the wrong disk is what caused the problem. You must use the same disks to UNinstall as you used to INstall.

Glad you got it solved, though. Thanks for the feedback!

.....

'Using dBASE III PLUS'doc states that the value returned by 'TIME()'can be used in calcs. I did not find the doc very helpful in explaining how this could be done. Maybe its elsewhere in the docs? Anyway, am looking to experiment with application that uses time as key field, i.e., program scheduler for TV station. Any suggestions or comments would be welcomed.

Tony, the TIME() command returns a character string which would have to be converted to numeric for any calculations between times. You could convert the time to decimal hours with a formula such as below.

```
STORE time() TO mtime
? mtime
03:18:23
STORE VAL(SUBSTR(mtime,1,2))+(VAL(SUBSTR(mtime,4,2))*60+ ;
VAL(SUBSTR(mtime,7,2)))/3600 to ntime
? ntime
3.31
```

You'd have to go through a similar process to get it back into the character format.

.....

I have an unanticipated user problem with an application I just finished. It tracks rehabilitation therapists, the patients they serve, and the visits made. There are three databases - therapist, patient, and visit. The main menu includes selections for ADD A NEW PATIENT, ADD A NEW THERAPIST, CHANGE PATIENT RECORD, CHANGE THERAPIST RECORD, etc. When a new record is added to any of the databases, the program checks to see if a duplicate record exists (checks by name), and informs the user if a duplicate does exist. Since it is possible to have several patients or therapists with the same name the user is provided the option of going ahead and adding the new record or quitting the add routine and returning to the main menu.

The problem is that the users keep on adding the same record over and over and over. One patient had been added 18 times! The director of the program does not want to compare and "lock out" duplicate records based on an ID number because that ID number is not always available at the time the record is added. And I can't seem to get the concept that a patient, etc. is only added once.

I think the old "can't have your cake, and eat it, too" expression is appropriate for this type of situation. You can either verify that the entry is truly unique, or accept the fact that there will be duplicates. From your description of the application, duplicates would cause all kinds of havoc, especially if you were to base payment to the visiting nurses on the contents of the "visits" file.

In such situations, just having the computer check for duplicates isn't sufficient either, because of variances in the way the data is entered. Mixed case, misspellings, different ways of entering the same info (Fourth St, Fourth Street, 4th St) would prevent a program from ascertaining the fact that duplicates exist.

If a "natural" key field, such as SSN, is not possible or practical, my approach has been to provide a way for the operators of such programs to visually check for duplicates prior to entering the data. I use both a hard copy listing of the database in question, and to preclude the possibility that an entry has been made that's not on the current list, a "scroll" routine, that displays similar (you could even include sound-alike's) entries on the screen.

But all actual entry is based on a unique key field. If as above, one doesn't exist naturally, then I create one as you suggested in your message. If someone has a better approach, I'd be tickled to death to hear it, because this type of situation is common to almost every accounting application.

Each patient and therapist does have a unique ID number and I originally designed the system to require that number when the new record was entered. The problem here was the user who is the director of the program. They could not deal with the discipline this imposed and did not always have the ID number at the time the record was entered. So insisted the duplicate checking be changed to the name check.

Social security numbers pose a real problem as well. First, administrators of large databases are changing away from SSNs, since they claim that using them does not reduce the problem of mistaken identities (9 digits = 9 chances to screw up). Second, what do you do when somebody refuses to give it for your purposes? (I refuse to give it out for trivial stuff, like check cashing cards, and resist in other things.) The Feds say that the only people that can REQUIRE SSNs are those people that pay you money, plus other organizations that have to deal with taxes.

I agree with your philosophy regarding the SSN. Unfortunately, Ohio requires it for a driver's license, and then plasters it on your license. Makes it hard to cash a check w/o letting someone have the SSN. Wonder how many statistics are being accumulated around that number?

.....

Can somebody answer a basic question in dBASE III PLUS multi-user: Is record locking implicit, or must records be explicitly locked before modification? Another way of asking: Can existing applications be transported to dBASE III PLUS without modification?

No, they must be modified to a greater or lesser extent.

.....

Suppose I am using the structure:

```
DO WHILE .NOT. EOF()
....
....
SKIP +1
....
READ
....
ENDDO
```

Exactly when would I encounter an End Of File error? When I reference a field in the database after the Skip? When I do the READ? (I ask this because dBASE III appears to give the EOF error upon executing the READ, even though the GETs have nothing to do with the database.

*You get the EOF error when dBASE hits the READ. Putting your SKIP *after* the READ will solve the problem.*

.....

I've noticed that the count of number of records indexed during indexing or reindexing has been replaced with the percentage of record. But the only percentages shown are "00 %" and "100 %". During the reindexing of a large file, it sure would be nice to get an indication of how far the process has gone. Is there any way to get the percentage to be updated more frequently?

For some functions, like SUM and COUNT, SET ODOMETER TO <num> (in dBASE III Developers Release and PLUS) will update the screen every <num> records. However, SET ODOMETER TO does not apply to the INDEX command, and there is no way to affect the INDEX percentage meter.

[Editor's Note: See the dBASE III PLUS Usage Tips section of this issue for a description of SET ODOMETER TO].

.....

I am a new user of dBASE III and am finishing a rather large project that has been going well until I changed printers. I have been using an IBM Graphics Printer for reports but now have an Epson LQ1500. My reports are now not printing properly. how do I tell dBASE that I have this new printer? Thanks

dBASE doesn't really care what kind of printer you're using, and works quite well with the LQ1500. It sounds like you have some configuration codes in your program that were meant to set up your previous printer. These will most likely be different for the Epson than they were for the IBM.

.....

I tried to uninstall dBASE III last night and received the following message.

The maximum dBASE III install count is 0001 UNinstall is resetting installation count. After this UNinstall, 0001 install will be available. Press RETURN ( ) to continue, Ctrl-Break to abort.

dBASE III not installed. UNinstall aborted (Code 0850)

I KNOW its installed, because I can run it.

Code 0850, according to SoftGuard, indicates that the installed copy cannot be validated against the floppy disk to which you are trying to uninstall. Usually this is caused by installing from one diskette, then attempting to uninstall the program to another diskette.

.....

I need help. One of my dbf's had a memo field, and I inadvertently erased the dbt file. I cannot unerase it as it has been overwritten. Of course the dbf now won't open. How can I save my data???

Change the first byte in the database header record from 83H to 03H, then use MODIFY STRUCTURE to remove the memo field (this after backing up, of course).

[Editor's Note: You can also create a text file with the same name as the missing memo file. If your database is TEMP.DBF, then create text file called TEMP.DBT, with just a few Returns in it. This will allow you to open the database in dBASE, and you can then use MODIFY STRUCTURE to remove the memo field from the file.]

.....

I have been running dBASE III with a Sigma 400 color board for quite some time. Now we have updated to dBASE III PLUS and I cannot get the program to run. Is there a fix??? Help !

dBASE III PLUS will only work with the Sigma 400 card if you run the NMI program to turn NMI off prior to starting dBASE (NMI.COM comes with the Sigma board). When you're done with dBASE III PLUS, *though, you need to reboot DOS.*

.....

I have not been able to bypass the ASSIST when booting from System Disk #1. I am using the same IBM PC that I ran dBASE III PLUS from. There is no problem when Command=Assist is line one of CONFIG.DB. With this line deleted I still get prompted to insert System Disk #2. If I leave Disk #1 in and press return , the cursor appears at the lower right corner of the screen. The system doesn't respond to anything but Control-Alt-Del. Any suggestions ?

It sounds like you're using a floppy based system, rather than a hard disk, so check to make sure that the CONFIG.DB file is on System Disk #2. If it's on System Disk #1, it isn't being read. The system has to prompt you to insert System #2 since without the .OVL file it can't run.

Thanks for the suggestion. I did not realize that CONFIG.DB was on System Disk #1 and #2 until I read your reply and read the NOTE on page GS-10 CAREFULLY. I will remember that I missed something that was documented next time a client asks me about a detail that is obvious to me. Thanks for patiently informing me about something I should have seen.

Update Policies

dBASE II

The latest version of dBASE II, version 2.43*, is now available for update to all registered users of dBASE II, subject to format availability.

In order to update your current version of dBASE II, you must have your original software registration card on file with Ashton-Tate Customer Service. If you are not a registered user, you may request that a registration card be sent to you.

Prices for this update are outlined below, depending on which version of dBASE II you are currently using. (Funds must be in US dollars drawn on a US bank.)

Version 2.3
$75.00 within US — UPS shipping
$90.00 within US — DHL (3 day)
$100.00 in Canada - DHL (only)

Version 2.4
$50.00 within US — UPS shipping
$60.00 within US — DHL (3 day)
$75.00 in Canada — DHL (only)

Version 2.41 (purchased before 12/1/84)
$25.00 within US — UPS shipping
$35.00 within US — DHL (3 day)
$40.00 in Canada — DHL (only)

If your product was purchased after April 1, 1985, the 2.43* update will be sent at no charge. Please include proof of purchase with requests for free updates. Direct all correspondence to:

Ashton-Tate Customer Service
dBASE II Update
20101 Hamilton Ave.
Torrance, CA 90502-1319
(213) 329-1664

dBASE III PLUS

Registered users of dBASE III version 1.0 or 1.1 will be notified by mail regarding the upgrade to dBASE III Plus. **Unregistered** users of dBASE III version 1.0 or 1.1 who wish to upgrade to dBASE III Plus are required to send in their registration card and contact: (213) 329-1664, or (213) 329-9989.

Framework II

Registered users of Framework version 1.0 or 1.1 will be notified by mail regarding the upgrade to Framework II. **Unregistered** users of Framework version 1.0 or 1.1 who wish to upgrade to Framework II are required to send in their registration card and contact: 1(800)437-4329.

Disk Replacement Policy

In the event that you find a defect in the programming, materials, or workmanship of an Ashton-Tate system disk within three months of purchase, we will replace it free of charge. Call Software Support first to verify the defect, (213) 329-0086, between the hours of 6:00 am and 4:30 PM, PST.

If you damage your system disk anytime within three years of purchase (and after the 90-day warranty), there is no need to call Software Support. Our Customer Service department will replace it for $20.00 (per disk), payable by check, money order, or VISA/MasterCard (U.S. funds drawn on U.S. bank). Just complete the replacement form below and send it to Customer Service at the address below, along with the defective disk and your payment. (Please enclose a dated proof-of-purchase.)

Ashton-Tate Customer Service
Disk Replacement Form
20101 Hamilton Ave.
Torrance, CA 90502-1319

PLEASE BE ADVISED: You **must** be **registered** with Ashton-Tate in order to receive a replacement disk. If you have lost your registration card, or feel that you may not be on file, please call Customer Service at (213) 320-1664, Monday through Friday, 8:00 am to 4:30 PM, PST.

DISK REPLACEMENT FORM

Name _____

Company _____ Dept./Div. _____

Address _____ Suite/Room _____

City _____ State _____ Zip _____

Country _____ Phone ( )_____-_____

* System Disk Serial Number (REQUIRED) _____

Ashton-Tate Product Used _____

Computer Brand and Model Used _____

AMOUNT ENCLOSED: $_____

NOTE: You must either insure any defective system disk being returned or assume the risk of loss or damage in transit.

* If your disk indicates your serial number as being "ON FILE," refer to your original system disk or system backup disk for your serial number.

READER SUBMISSION FORM

If you have a programming tip, a handy formula, or a short utility, and you are interested in sharing it with other dBASE II, dBASE III PLUS, and Framework II enthusiasts in a future issue of ***TechNotes***, please read the provisions below. After reading these guidelines, fill out this form and send it along with your submission(s) to the following address. Submissions must be made on disk (IBM or compatible format) in standard ASCII format or in Framework II (.FW2) format.

***TechNotes* Submissions**
Software Support Center
Ashton-Tate
20101 Hamilton Ave.
Torrance, CA 90502-1319

NAME _____ DATE _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

PHONE (During normal business hours) ( ) _____ - _____

_____

(SIGN HERE TO ACKNOWLEDGE YOUR UNDERSTANDING OF THE PROVISIONS BELOW)

To establish a clear understanding of the rights and usage of submissions, you are asked to first represent and warrant that:

1. You are the author of the material: that it is original and has not been heretofore published; that it does not infringe upon any copyright, proprietary right or any other right whatsoever; that it contains no matter that is contrary to law; and that you are the sole owner of the rights herein conveyed to us, and that such rights are free and clear.
2. We shall have the right to use your name, biography or other information pertinent to your submission.
3. We shall have the right, at our discretion, to edit the material to suit the requirements of our publication.
4. Suggestions, comments, and programming materials submitted to ***TechNotes*** are not for reply. Materials submitted for publication are considered contributions to the "pool" of information found in ***TechNotes*** for the advantage of our readers. Although, we do not pay or in any other way compensate you for your contribution, your name shall appear as author or contributor.

Thank you for reading ***TechNotes***. If you do not have a submission for us, write us anyway and let us know what you think about our publication. We certainly appreciate any feedback you may have.

TechNotes Reader Survey

In our effort to make ***TechNotes*** an even more valuable resource to you, we want your thoughts about it. Please take a minute to fill in the following questions, and return it to us in the postage-paid return envelope. Share with us your comments so that we may keep ***TechNotes*** in tune with your needs. Thank you.

==========

1. Which of the following statements best describes your *overall feeling* about ***TechNotes***?

   Excellent, almost always has useful information for me. ___
   Good, frequently has useful information for me. ___
   Average, occasionally has useful information for me. ___
   Fair, seldom has useful information for me. ___
   Poor, almost never has useful information for me. ___

2. Which Ashton-Tate product(s) do you use one or more times a week? (Check all that apply.) ___None

   ___ dBASE II ___ dBASE III ___ Developer's Release
   ___ dBASE III PLUS ___ Framework ___ Framework II

3. How long have you used Ashton-Tate products? ___ yrs ___ mos.

4. How long have you subscribed to ***TechNotes***? ___ yrs ___ mos.

5. Do you keep your back issues of ***TechNotes***? ___ Yes ___ No

6. How many people, *besides you*, read your copy of ***TechNotes***?___

7. Please rank from 1 to 9 the following types of information in order of their *usefulness to you*. (1 is most useful, 9 is least useful.)

   ___ Technical Articles ___ Anomalies
   ___ Application Articles ___ Sample Programs
   ___ Letters from users ___ Update Policies
   ___ Usage Tips ___ ***TechNotes*** Index
   ___ Your Choice _____

8. When you have a technical question or problem related to Ashton-Tate products, what do you do *first*?

   ___ Call Software Support
   ___ Read ***TechNotes***
   ___ Connect to On-Line Services (CompuServe, The Source, etc.)
   ___ Read the documentation
   ___ Call a knowledgeable friend
   ___ Other _____

9. Which MultiMate® product(s) do you use? (Check all that apply.)

   ___ None ___ On-File™
   ___ MultiMate Advantage™ ___ GraphLink™
   ___ MultiMate 3.3 Series ___ Business Advantage™ Keyboard
   ___ MultiMate Executive™ ___ Business Advantage Communications
   ___ Just Write™ Board

10. Would you like to see topics about MultiMate software covered in ***TechNotes***? ___ Yes ___ No

    If yes, what topics?

    1._____

    2._____

11. Would you like to see *advertisements* in ***TechNotes*** on products and services related to Ashton-Tate products? ___ Yes ___ No

    If yes, what products or services would you like to see advertised?

    1._____

    2._____

    If no, why not?_____

    _____

12. Would you like to see *case studies* in ***TechNotes*** on how Ashton-Tate software is being used to solve business problems? ___ Yes ___ No

    If yes, do you have a suggestion for a case study?

    _____

13. Which of the following would you like to see expanded in coverage and which reduced in coverage in ***TechNotes***?

	Expand	**Reduce**	**Stay as is**
dBASE II	___	___	___
dBASE III	___	___	___
Developer's Release	___	___	___
dBASE III PLUS	___	___	___
Framework 1.x	___	___	___
Framework II	___	___	___
Usage Tips	___	___	___
Anomalies	___	___	___
Letters	___	___	___
Policies	___	___	___
MultiMate	___	___	___

14. What, if any, additional topics would you like to have included in ***TechNotes***, in order of your preference?

    1._____
    2._____
    3._____

15. What is the single thing that you *like most* about ***TechNotes***?

    _____

16. What is the single thing that you *like least* about ***TechNotes***?

    _____

17. What other comments would you like to make regarding any topic?

    _____
    _____
    _____

Thank you for your valuable input.

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	ERROR MESSAGE	Feb	42	*" 'TO'PHRASE NOT FOUND": Memory variable corruption*
	MEMORY VARIABLES	Feb	42	*Corruption of numeric memory variables in dBASE II, version 2.43**
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	RUNTIME	Feb	43	*RENAME.COM is not on the RunTime disk, as the manual states*
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dBASE III	BROWSE	Jan	45	*Problems using the SEEK option with SET DELETED ON*
	DBRUN.OVL	Jan	46	*This file may not get copied during Developer's Release INSTALL*
	ERROR MESSAGE	Jan	46	*"Record is out of range": trying to GOTO a very large number*
	FIND	Jan	45	*With numeric INDEX, FIND <cstring> will FIND first zero valued record*
	GOTO	Jan	46	*Attempting to GOTO a very large number may lock the computer*
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	INSTALL	Jan	46	*Developer's Release: INSTALL may not copy DBRUN.OVL*
	PARAMETERS	Jan	46	*Cannot wrap PARAMETERS line with semi-colon*
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Anomalies

Product	Entry	Issue	Page	Description
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Product	Entry	Issue	Page	Description
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	REMOVE.PRG	Jun	34	*Removes any set of characters from within a target string*
	SAVESTRU.PRG	Jun	23	*Creates a library of database file structures of the current directory*
	SEEKARRAY.PRC	Apr	15	*Procedure to find an element within a defined array*
	VIEW.PRG	Feb	12	*Program to toggle between table view and form view*
	WRAP.PRG	Apr	24	*Program to wrap long strings, called from Listform.PRG*

Sample Programs

Product	Subject	Issue	Page	Description
Framework II	ALT-B (BOX MACRO)	Apr	39	*Macro to draw boxes in word frames*
	DATA TABLE	Feb	35	*Program to create data tables in Framework II*
	HEX	Apr	37	*FRED function to convert a decimal number to hexidecimal*
	LABELPGM	Mar	14	*Program to automate mailing labels*
	LSTRING	Jan	25	*Function to extract the left portion of a character string*
	MID STRING	Jan	31	*Macro to extract the mid portion of a string in word frames*
	PFS TRANSFER	Mar	37	*Program to transfer files from pfs:file to Framework II*
	RSTRING	Jan	26	*Function to extract the right portion of a character string*
	RUNDBASE	Mar	27	*Running dBASE from within Framework II*
	STRING FUNCTIONS	Jan	24	*User-defined string functions used in spreadsheet and database frames*
	TABSTOP	Mar	18	*Macro for putting variable tab stops into word frames*
	TABSTRIP	Jan	33	*Program to remove tabs from a word frame*
Other	CHOOSE.COM	Mar	33	*An assembly language routine used to choose menu options with MENU.BAT*
	MENU.BAT	Mar	32	*DOS batch file is controlling program for front-end menu system*
	MENU.DAT	Mar	33	*DOS batch file, called from MENU.BAT, displays menu screen*

Usage Tips

Product	Entry	Issue	Page	Description
dBASE II	@...SAY	Jan	37	*Patches to access line 24 with @...SAY in versions 2.4 or higher*
	DEBUG	Jan	37	*"@ row,column SAY ERASE" only clears one line in CP/M-80 formats*
	NUMERIC	Jan	37	*Patches to access line 24 with @...SAY in versions 2.4 and higher*
	VARIABLES	Mar	40	*How to left-justify numeric variables*
	SUBDIRECTORIES	Mar	39	*Using logical drive designators as subdirectories with DOS 3.1*
dBASE III	ASSIST	Mar	40	*Commands executed in ASSIST can be recorded in HISTORY*
	COPY	Jan	38	*Method to COPY fields from one database file to another*
	DELETE	Jan	39	*Deleting records based on values in a related database file*
	SET PATH TO	Jan	40	*If SAFETY is ON, some commands will search the path before writing*
		Jan	40	*Commands which use the path to locate a file*
	SET SAFETY ON/OFF	Jan	40	*If ON, some commands will search the path before writing to disk*

Usage Tips

Product	Entry	Issue	Page	Description
dBASE III PLUS	ERROR MESSAGE	Apr	44	"Invalid Operator": Results from improper syntax of DO WHILE statement
		Jun	32	"Unrecognized phrase/keyword in command": results from using (")
		Jun	32	"Variable not found": results from using "-" in a filename
		Jun	33	"Invalid operation on a memo field": results from executing JOIN
		Jun	33	"Memo file can not be opened": returned when .DBT file is not found
	FILENAMES	Jun	32	Database filenames with an embedded dash cannot be used
	FOR/WHILE	Jun	34	Changes made to the REPORT FORM
	HISTORY	Mar	40	Commands executed in ASSIST can be recorded in HISTORY
	IBM EGA	May	27	Toggling the IBM Enhanced Graphics Adapter's 43-line display mode
	INPUT	Apr	44	INPUT does not accept a Return as valid input
	INTERACTIVE MODE	Apr	44	Cannot continue dot prompt commands with a semi-colon
	JOIN	Jun	33	Specifying a memo field in the FIELDS clause returns an error
	MODIFY VIEW	Apr	46	Will return error message if any components of the view have changed
	PRINTING	Apr	42	Control codes to the printer with @...SAYs are counted as characters
		Jun	34	Changes made to the REPORT FORM
	PUBLIC	May	30	Variables SAVEd as PUBLIC will be RESTOREd as PUBLIC
	REPLACE	May	31	Using REPLACE to update a many-to-one related database file
	REPORT FORM	Jun	34	Changes made to the REPORT FORM
	RESTORE	May	30	Variables remain PUBLIC once RESTOREd if declared so before a SAVE
	SAVE TO	May	30	Variables SAVEd as PUBLIC will be RESTOREd as PUBLIC
	SET COLOR	May	30	A table of the default color attributes shows changes from dBASE III
	SET DATE FRENCH	Apr	45	This command is now the same as SET DATE BRITISH
	SET FIELDS TO	Apr	45	SET FIELDS TO <field list> automatically SETs FIELDS ON
	SET ODOMETER TO	Jun	35	Setting the step count of the percentage display
	SET ORDER TO	Apr	45	Must reposition the record pointer after this command
	SET RELATION TO	May	31	A syntax error is returned if SET RELATION is used without TO
	SET SCOREBOARD	Apr	45	Clears the entire screen
		May	27	Using @...SAY to line 0 will not write in the SCOREBOARD area
	SET STATUS	Apr	45	Clears the entire screen
	SET VIEW TO	Apr	46	Cannot make changes to any component parts of a view
	SUMMARY	Jun	34	Changes made to the REPORT FORM
	UPDATE	May	31	Using REPLACE to update a many-to-one related database file

Usage Tips

Product	Entry	Issue	Page	Description
Developer's Release	DBRUN.COM	Jan	40	*This file, not DBRUN.EXE, should be renamed as per the documentation*
	DBRUN.EXE	Jan	40	*This hidden file will not show up with DIR and cannot be renamed*
	READ	Jan	40	*In Developer's Release, a READ must have active GETs*
	REINDEX	Jan	40	*Cannot issue a READ from within HISTORY in Developer's Release*
	SET ORDER TO	Jan	40	*Must reissue the SET ORDER TO command if you REINDEX*
		Jan	40	*Use REINDEX to SET ORDER TO its original state*
Framework II	.PAR FILES	Mar	43	*Converting .PAR files to .TCM files*
	.TCM FILES	Mar	43	*Converting .PAR files to .TCM files*
	@if	Jun	38	*Using @select to maintain readability of cascading @if structures*
	@performkeys	Jun	39	*Displaying the keyname of the last key pressed*
	@select	Jun	38	*Using @select to maintain readability of cascading @if structures*
	@sum	Mar	42	*Cannot remove the last column/row referenced by @sum*
	@time	Jan	42	*Displaying times with the Numbers pull-down menu*
	@writetextfile	Jun	40	*The correct way to use variables with @writetextfile*
	APPS MENU	Mar	43	*Some Print Output Options have no effect on Mailmerge or Print Labels*
	CONDENSED PRINT	May	32	*Condensed Print takes precedence over Near Letter Quality on LQ1500*
	COPYING	Jun	40	*Copying the source information of multiple columns is not allowed*
	DICTIONARY	Mar	42	*May take a long time to save the personal dictionary the first time*
	DOS ACCESS	Jun	41	*The DOS Access screen will clear if ANSI.SYS is used as a device*
	DOW JONES	Mar	42	*Copying fractions from text into spreadsheets*
	EPSON LQ1500	May	32	*Condensed Print takes precedence over Near Letter Quality on LQ1500*
		Jun	40	*Unexpected limitations printing graphs when using an EPSON LQ1500*
	ERROR MESSAGE	Jun	40	*"Frame too large to be printed": results from sizing a graph to large*
	EXTENDED MEMORY	Mar	42	*Memory requirements for extended memory*
	FRACTIONS	Mar	42	*Copying fractions from text into spreadsheets*
	GRAPHING	Jun	40	*Unexpected limitations printing graphs when using an EPSON LQ1500*
	IBM 3270t	Jan	44	*This screen driver is found under "All Other IBM Drivers" in SETUP*
	IMPORT	Mar	41	*Importing Framework 1.x files to Framework II*
	IMPORT/EXPORT	May	32	*Procedure to correctly transfer Lotus files*
	LABELS	Mar	43	*Some Print Output Options have no effect on Mailmerge or Print Labels*
	LOTUS	May	32	*Procedure to correctly transfer Lotus files*
	MAILMERGE	Mar	43	*Some Print Output Options have no effect on Mailmerge or Print Labels*
	PAR FILES	Jan	44	*How to read .PAR files from Framework into Framework II*
	PRINTING	Mar	41	*How to print subscripts and superscripts from Framework II*

Usage Tips

Product	Entry	Issue	Page	Description
Framework II	PRINTING	Mar	41	Some Print Output Options have no effect on Mailmerge or Print Labels
	PROTECT FROM EDITING	May	43	Empty spreadsheet cells cannot be protected until they contain data
	RUNNING DBASE	Jun	32	Modifying RUNDBASE.FW2 to allow dBASE III to be run from a hard disk
	SETUP	Jan	41	Selecting screen color parameters in SETUP
	SIZING COLUMNS	Mar	42	Changing several spreadsheet or database columns at one time
	SPREADSHEETS	Mar	42	Copying fractions from text into spreadsheets
	SUBSCRIPTS	Mar	42	How to print subscripts and superscripts from Framework II
	SUPERSCRIPTS	Mar	41	How to print subscripts and superscripts from Framework II
	TELECOMMUNICATIONS	Mar	41	Converting .PAR files to .TCM files
	TEXT	Mar	43	Copying fractions from text into spreadsheets
	VIRTUAL MEMORY	Mar	42	Cannot use virtual memory to import Framework 1.x files

Miscellaneous

Subject	Issue	Page	Description
COMMUNICATION	May	36	Listing and description of communications boards from Multimate
CORRIGENDA	Jan	36	Corrections to September 1985, November 1985, and December 1985 issues
	Feb	27	Corrections to the March 1985 issue
	Mar	3	Corrections to the July 1985, October 1985, and December 1985 issues
	Apr	53	Corrections to the December 1985 issue
	May	7	Corrections to the March 1986 issue
MULTIMATE	Apr	50	Features of MultiMate Advantage update (version 3.60)
	Apr	52	Where to look when you have technical difficulties
	Apr	52	About MultiMate Technical Support—Supported products, when to call
	Apr	53	Customer Service versus Technical Support
	Jun	43	MultiMate version 3.30 printer of the month - HP Thinkjet
	Jun	43	MultiMate printers of the month (HP)
	Jun	44	MultiMate version 3.30 printer of the month - HP Laserjet
NEW PRODUCTS	May	37	Expanded products line from Multimate for the IBM PC family
ON-LINE SUPPORT	Jan	3	Information pertaining to CompuServe, The Source, and Onepoint
SUBSIDIARY OFFICES	Jan	56	List of Ashton-Tate international subsidiary offices
TRAINING CENTERS	Jan	54	Listing of Ashton-Tate Authorized Training Centers
	Mar	47	Listing of Ashton-Tate Authorized Training Centers

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